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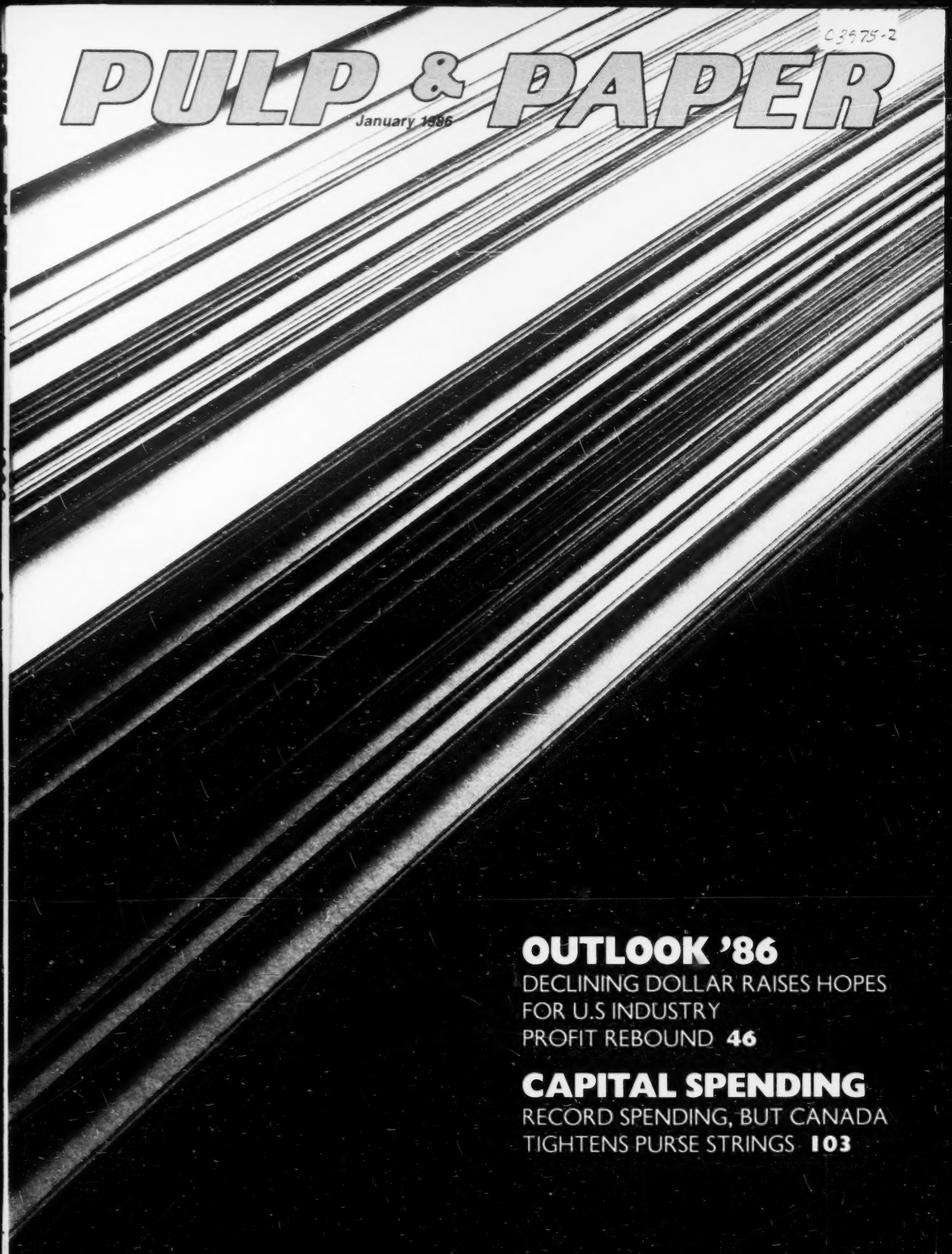
PULP & PAPER

January 1986



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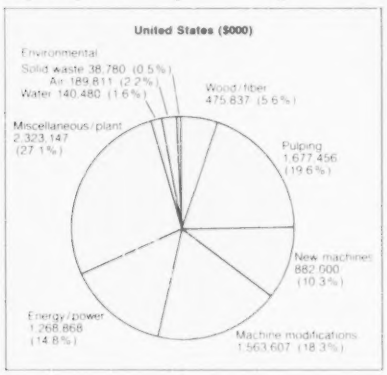

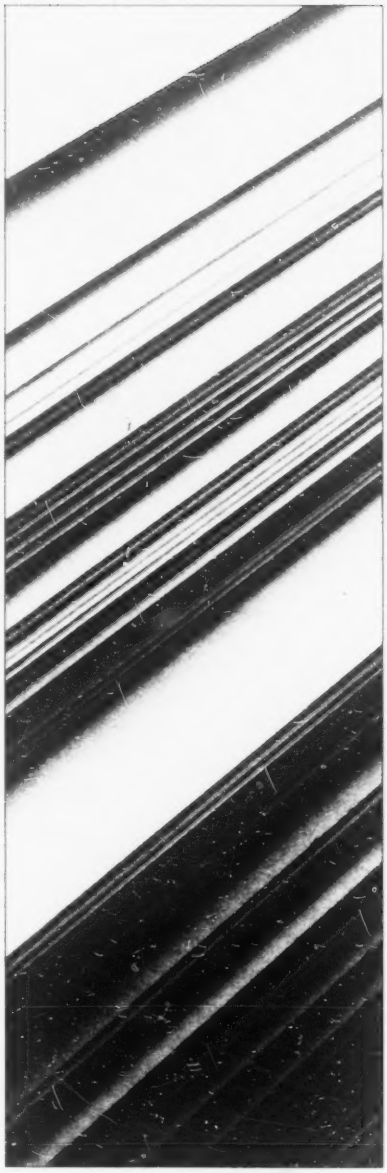

THE COVER

1986 looks like a pretty good year for the U.S. forest products industry in both the paper and solid wood sectors; brighter times for the industry should mirror improvements in the nation's economy. **(Photo courtesy of Boise Cascade Corp.)**

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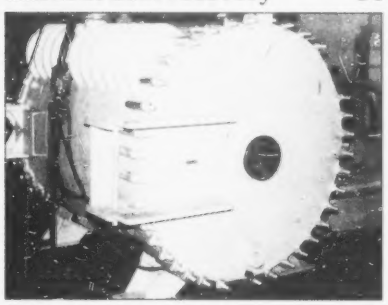

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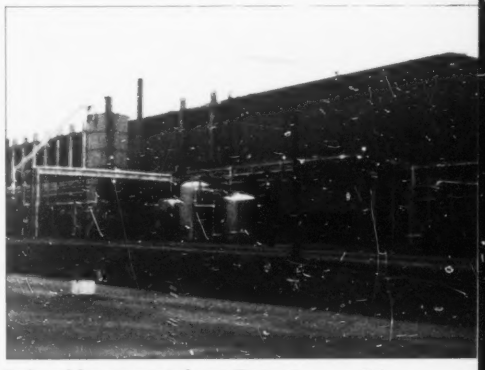

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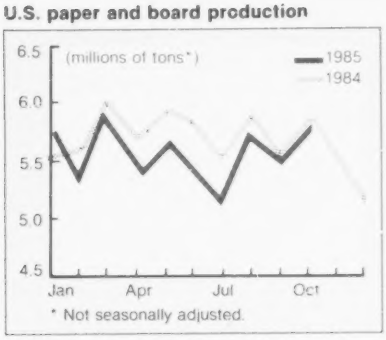
U.S. paper and board production



U.S. production of paper and paperboard totaled 5.8 million tons in October, 1.5% less than the same month last year, according to the American Paper Institute. The latest trend data show total production for 1985 moving toward 66.8 million tons, API said. That would be 2.5% lower than the record 1984 mark of 68.5 million tons. While paper and board markets improved and GNP rose in 1985, these positive factors were not enough to offset higher inventory levels and the negative impact of the strong dollar on foreign trade, API said.

Among major grades, uncoated free sheet continued to strengthen, but other printing and writing papers were weak. Containerboard may be poised for an upswing following some inventory reduction, although production for export is still depressed. Corrugated box shipments reached a record 25.5 billion ft² in October, the Fibre Box Assn. said, while containerboard inventories fell 5%.

Canadian newsprint shipments were off a slight 0.7% through October compared with last year, but pulp shipments registered a 4.4% gain. Operating rates continued at 92% for newsprint mills and dropped slightly to 96% for pulp mills. ■

		Latest month (000 short tons)	% change from year ago	Annualized year-to-date (000 short tons)	% change from year ago
PAPER & PAPERBOARD PRODUCTION [1]					
Newsprint	Oct.	449	−5.3	5,462	−2.1
Uncoated groundwood (s)	Oct.	147	5.0	1,498	−5.9
Coated paper (s)	Oct.	481	−12.1	5,931	−5.2
Uncoated free sheet (s)	Oct.	870	8.8	9,724	4.6
Other printing/writing	Oct.	116	−5.7	1,340	−8.9
Total packaging and other paper (s)	Oct.	450	−6.3	5,254	−7.7
Tissue	Oct.	432	1.6	4,932	.7
Total paper	**Oct.**	**2,944**	**1.5**	**34,143**	**−1.6**
Unbleached kraft paperboard	Oct.	1,405	3.6	16,518	−5.5
Semichemical medium	Oct.	447	1.6	5,092	−2.8
Bleached paperboard	Oct.	333	3.8	3,978	−3.1
Recycled paperboard	Oct.	694	1.6	7,733	−.5
Total paperboard	**Oct.**	**2,803**	**4.2**	**32,939**	**3.2**
Total U.S. paper and paperboard output	**Oct.**	**5,823**	**1.5**	**67,463**	**2.6**
PULP, WASTEPAPER & FIBER [2]					
Total U.S. woodpulp production	Sept.	4,432	−2.6	54,162	−3.1
Market pulp production	Sept.	518	5.3	6,799	−.5
Wastepaper consumption at paper/board mills	Sept.	1,252	2.4	15,178	−3.9
Pulpwood consumption (cords)	Sept.	6,904	4.7	85,412	−2.9
CONVERTED PRODUCTS STATISTICS [3]					
Corrugated box shipments (billion ft²)	Oct.	25.515	2.5	226.157[6]	−0.2
Containerboard inventories at U.S. box plants and mills	Oct. 1	2,560	−5.0		
INTERNATIONAL TRADE [2]					
U.S. paper imports (including products)	Sept.	981	6.6	11,084	4.1
Imports of Canadian newsprint	Sept.	714	10.4	8,123[6]	5.5
U.S. paper exports (including products)	Sept.	353	−10.4	4,027	−10.0
Exports of unbleached kraft linerboard	Oct.	152	2.0	1,738	−21.0
Exports of woodpulp	Sept.	298	4.6	3,821	5.2
Norscan pulp inventories[4]	Oct. 31	1,511	8.2		
Norscan pulp operating rates[4]	Oct.	91%	79%	87%	86%
CANADIAN STATISTICS [5] *(reported in metric tons)*					
Total newsprint shipments	Oct.	788	−.5	7,440[6]	−.7
Operating rates	Oct.	92%	93%	92%	92%
Inventories held by U.S. consumers	Oct. 31	1,495	2.7		
Other paper/board shipments	Oct.	304	21.6	2,540	10.7
Woodpulp shipments (export only)	Oct.	585	1.9	5,778[6]	4.4
Operating rates	Oct.	96%	98%	88%	87%

1. American Paper Institute. 2. API, Bureau of Census, American Pulpwood Assn. 3. Fibre Box Assn., Paperboard Packaging Council. 4. North American/Scandinavian paper-grade market pulp. 5. Canadian Pulp & Paper Assn. 6. Not annualized. (s) = Shipments.

LINERBOARD: Rebound in demand should lift prices

Grade structure: Unbleached linerboard is made in a wide range of basis weights. Standard weight in the U.S. is 42 lb/1,000 ft², but other important weights are 26 lb, 33 lb, 69 lb, and 90 lb/1,000 ft². Major use is in domestic corrugated container production, although about 12% of output is exported.

Production: Unbleached kraft linerboard production dropped about 6.2% to around 15.0 million tons in 1985, reflecting an estimated 1.0% decline in corrugated box shipments and a plunge in export shipments.

The strong dollar has been a major factor behind linerboard's poor performance. Waves of imported goods entering the U.S. have depressed industrial production and with it, domestic corrugated box demand. And the super dollar has made it difficult for U.S. liner exporters to compete at price levels prevailing in overseas markets. As a result, liner exports declined about 13% in 1985 to an estimated 1.7 million tons, following an 8.4% decline the previous year.

The combination of sluggish box demand and the roughly 400,000-ton decline in export shipments over the past two years caused a buildup in containerboard inventories. Stocks at box plants and mills hit a peak of 3 million tons (8.1 weeks) in April. High inventory levels led to infighting among producers for orders, and the open market price for liner in the eastern U.S. slid from $350/short ton in late 1984 to $260 and lower by last summer—an unprofitable level for many mills.

The market began to take on a better tone in late fall due to some improvement in demand combined with widespread mill production curtailments. As a result, inventory levels by Oct. 1 had declined to around 2.5 million tons and appeared to be heading even lower.

Capacity trends: Poor profitability has reduced the rate of linerboard capacity expansion to only 1.6%/year over the 1986-88 period, according to the latest American Paper Institute survey. Chesapeake Corp. of Virginia is scheduled to start up a new 315,000-tpy liner machine in November, but this will replace an existing machine.

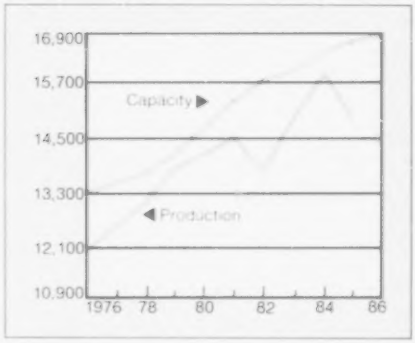
No additional new machines have been announced. But incremental expansion/cost reduction projects—such as the addition of new high-pressure presses and secondary fiber lines—may cause somewhat faster than expected capacity growth over the next few years.

Future outlook: The decline in the dollar should help revive U.S. box demand as well as linerboard export shipments. U.S. corrugated box shipments should closely match the 3% increase in industrial production most economists project for 1986. This would cause about a 6% increase in liner output for domestic use after a 4% decline last year due mainly to inventory reduction.

Liner exports could increase about 9% to 10% as the decline of the dollar reduces the cost advantage of overseas producers and causes some firming in export price levels. Overall U.S. liner production should rise about 5.8% to 15.9 million tons, resulting in an operating rate of 93.1% in 1985.

Pricing: Producers tried unsuccessfully to raise linerboard prices in the eastern U.S. by $30/ton to $290 last September. The price increase may begin to stick in the first quarter of 1986, however, due to improving demand and low inventory levels. If economic growth continues, attempts at one or two further $20 to $30/ton price hikes are possible in late spring and early fall—but price hikes will not be easy since the industry will still not be running quite at maximum (95% or more) capacity. (Historical year-end prices for 42-lb liner delivered in the eastern U.S. open market are as follows: 1985, $260; 1984, $350; 1983, $290; 1982, $250; 1981, $270; 1980, $270.)

SUPPLY/DEMAND (000 tons)



FORECAST (000 tons)

	1983	1984	1985e
Production	16,037	15,035	15,905
Capacity	16,565	16,780	17,090
Utilization rate	96.8%	89.6%	93.1%
Imports[2]	70	55	60
Exports[2]	1,917	1,650	1,810
Apparent U.S. consumption	14,190	13,430	14,155
lb/capita	120.8	114.0	117.4
GNP ratio	8.66	7.99	8.17

e = Estimate
1. 1985 American Paper Institute capacity survey
2. Commerce Dept.

TOP U.S. PRODUCERS (000 tpy)

	Annual capacity	Market share (%)
1. Stone Container	1,870[1,*]	10.9
2. International Paper	1,570	9.2
3. Weyerhaeuser	1,340	7.8
4. Union Camp	1,330[*]	7.8
5. Georgia-Pacific	1,040[3,*]	6.1
6. CCA	975[*]	5.7
7. Temple-Inland	780[*]	4.6
8. Owens-Illinois	750	4.4
9. GNN	745	4.4
10. Westvaco	670[*]	3.9

Market share of top five companies:
41.8%

Market share of top ten companies:
64.7%

Total U.S. capacity (1986):
17,090 million short tons

1. Includes planned acquisition of Champion International's 1,865-tpd Missoula, Mont., mill.
2. Includes rebuild of No. 1 swing machine at the Monticello, Miss., mill to mainly liner production.
3. Includes rebuild of two machines and shutdown of one machine at Fernandian Beach, Fla., in early 1986.
4. Includes 50% interest in Georgia Kraft Co., jointly owned with Mead. Mead's share is less since it includes some coated kraft board. T-I's capacity excludes the new 500-tpd Ontario, Calif., recycled liner mill.
*Exact estimate difficult due to kraft paper production.

SALES/EARNINGS

Canadian paper companies report modest improvements in third quarter

Canadian pulp and paper companies eked out a small 4.3% increase in earnings on a 6.9% rise in sales for last year's third quarter compared with a year earlier. But aftertax profit margins continued at a depressed 2.3%, reflecting weak prices for market pulp, newsprint, and lumber. Of the companies surveyed by *Pulp & Paper*, seven showed profit increases, four displayed declines, and three reported losses for the period.

Companies in eastern Canada continued to turn in the strongest profit performance. A 60.3% increase in earnings on a 16% rise in sales for the third quarter was reported by Abitibi-Price Inc. President and CEO Bernd Kolken said that the profit increase resulted from improved contributions from most operations, the addition of two paper merchants acquired this year, and the higher U.S. exchange rate. Kolken expected fourth-quarter demand to be healthy and operating levels to remain steady, even though prices for newsprint and other printing papers remain under pressure.

Consolidated-Bathurst Inc. posted a 7.2% rise in earnings on a 12.2% increase in sales for 1985's third quarter. Higher sales of newsprint and groundwood specialties were partially offset by lower sales of bleached kraft pulp as well as mechanical pulp and corrugating medium from the struck Bathurst, N.B., mill. Reduced losses from the Bridgewater, U.K., newsprint mill also contributed to the earnings improvement.

Great Lakes Forest Products Ltd., however, reported a loss of $1.3 million for the third quarter compared with a profit of $5.4 million a year earlier. The red ink "resulted mainly from depressed selling prices for kraft pulp and fine papers and lower shipment volumes of newsprint, kraft pulp, and stud lumber," according to Charles J. Carter, GLFP's chairman and president. Fraser Inc. reported a $2.4-million loss for the third quarter compared with a loss of $2.9 million a year earlier. "Fine paper and coated groundwood paper markets showed significant weakened during the third quarter, which meant machine downtime at the Madawaska [Maine] mill for both product lines," Fraser company sources reported. Although new markets were found for pulp produced at the Atholville, N.B., sulfite mill, pulp markets nevertheless remain "very oversupplied."

West Coast woes. Profit margins of west coast producers continued to be depressed in the third quarter, although some companies posted higher results than the same period in 1984. British Columbia Forest Products Ltd., for example, reported an 87.5% increase in earnings on a 1.1% rise in sales from depressed levels a year earlier, despite "unsatisfactory demand and prices for kraft pulp and lumber coupled with intense competitive pressure on sales of newsprint." More favorable market conditions prevailed for the company's lightweight coated paper, but some softening occurred late in the quarter.

Canfor Corp., however, reported a net loss of $14 million for the third quarter compared with a loss of $5.8 million a year earlier. The company blamed depressed prices for lumber and pulp, further production curtailments, and costs related to downsizing and restructuring operations. Another company with heavy exposure to pulp and wood products—Westar Timber Ltd.—however, was able to show a divisional operating profit of $6.6 million compared with $8.6 million in 1984 (not shown in table). ■

Canadian paper industry third-quarter results.

	1985 third quarter (C$000)			
Companies	**Sales**	**Change 1985/84**	**Earnings[1]**	**Change 1985/84**
Abitibi-Price Inc.	C$633,544	16.0%	C$25,417	65.7%
British Columbia Forest Products	277,800	1.1	4,500	87.5
Canfor Corp.	276,300	−2.3	(14,000)	n.m.
Cascades	69,135	47.1	4,057	45.9
Consolidated-Bathurst	437,600	12.2	22,400[2]	7.2
Crown Forest Industries	230,600	11.0	7,600	347.1
Domtar Inc.	525,700	3.2	19,300[3]	−15.4
Donohue	101,700	−1.1	3,800	−47.9
Fraser Inc.	131,432	3.8	(2,368)	n.m.
Great Lakes Forest Products	158,022	3.9	(1,343)	n.m.
MacMillan Bloedel	597,100	−1.0	12,100	−11.7
Rolland Inc.	73,900	4.5	1,052	−25.3
Scott Paper Ltd.	62,440	14.0	3,156	13.7
Weldwood	170,442	25.0	3,406	n.m.
Total	**C$3,745,715**	**6.9%**	**C$89,077**	**4.3%**

1. Income after taxes from continuing operations, excluding most significant nonrecurring items in both years.
2. Excludes 1985 extraordinary gain of $7.1 million.
3. Excludes extraordinary gains of $5.8 million in 1985 and $4.2 million in 1984.
n.m. — Not meaningful.

LABOR

Talks in British Columbia scheduled; Westar opts out

Thirteen of the 14 pulp and paper companies in British Columbia that normally negotiate jointly will again be represented as a group in contract negotiations beginning Jan. 31, three months earlier than normal, according to the Pulp & Paper Industrial Relations Bureau, the mills' bargaining agent.

In a Nov. 28 letter to the Canadian Paperworkers Union and the Pulp, Paper & Woodworkers of Canada—unions representing most of the primary industry's workers in the province—PPIRB president Eric Mitterndorfer said the companies accepted the unions' Oct. 25 invitation to start talks on Jan. 31. Three-year contracts

LINERBOARD

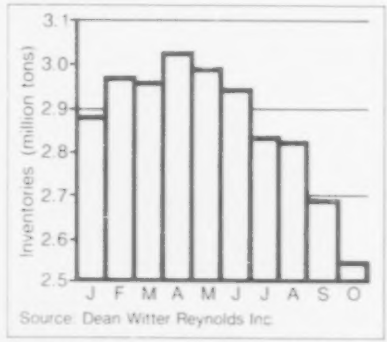
U.S. containerboard mills try for price hike again

Healthy domestic demand combined with widespread mill curtailments have caused the U.S. containerboard market to show further signs of firming. Stone Container Corp. recently told customers that it would no longer accept linerboard orders below the $290/short ton level beginning Jan. 1. Other producers were also expected to either reaffirm to the $290 list or announce some form of staged price increases. One containerboard mill, for example, reportedly announced a $10/ton increase for January and a $20/ton increase for March.

The improving tone of the market was reflected in containerboard inventories at box plants and mills, which dropped to 2.47 million tons (5.8 weeks of supply) on Nov. 1 from 2.56 million tons (6.2 weeks) on Oct. 1. The combined box plant/mill figure for November was the lowest since November 1983, and the figure for box plants alone (2.12 million tons) was the lowest since February 1980. Mill stocks on Nov. 1 dropped to about 350,000 tons, which was their lowest level so far this year.

The decline in inventories partly reflected strength in corrugated box shipments, which in October totaled 25.515 billion ft², up 2.5% from a year earlier and "the highest level of shipments the industry has ever had," according to the Fibre Box Assn. This brought the decline in year-to-date shipments to 1.3%.

But a more important factor in the drop was probably due to a rash of mill curtailments, prompted by market-related downtime, financial difficulties, strikes, flooding, machine rebuilds, maintenance problems, and an environmental dispute. As a result, such grades as lightweight linerboard, corrugating medium, and mottled linerboard are reported to be in relatively tight supply.



Source: Dean Witter Reynolds Inc.

Total containerboard inventories at U.S. mills and box plants for the first ten months of 1985.

Prices still competitive. Despite all of the production outages, prices in the eastern U.S. independent box market remain competitive. Most linerboard is still selling at about the $250 to $260/short ton level at best—although low spot prices are reportedly becoming more difficult to obtain on new business.

Box prices continued to erode in October and the National Assn. of Purchasing Management reports that they dropped further in November. This puts pressure on margins on independent converters and makes a large price hike on rollstock more difficult for them to swallow. Estimates of box prices (in terms of linerboard) place most national account business at the $280 to $290/ton level.

Some firming in Europe. The European kraft linerboard market has firmed considerably, which some producers attribute to downtime taken in October. Tonnage at many mills is sold out to February, and observers anticipate a price rise.

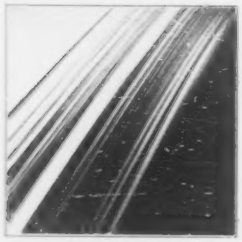
Price levels have moved up closer to the European Community minimum of $333/$353/$368 for 175+/150/125-g liner and most observers feel that offers below the minimum will disappear by January.

Prices in Japan have been around the $280 level. Lightweight (125-g) liner in Singapore has been at the $280 level and as low as $270 in Hong Kong, according to one agent. ■

U.S. linerboard exports to major importing countries, January through September, 1985.

Country	Quantity (metric tons)	Percent change from 1984	Value ($000)	Percent change from 1984
United Kingdom	134,904	−32.5%	$41,161	−53.8%
Fed. Rep. Germany	41,712	−56.4	11,624	−63.7
Italy	61,190	−39.7	18,474	−44.6
Spain	27,332	−28.5	7,7518	−35.5
Netherlands	18,022	−37.3	6,357	−35.5
France	12,642	32.2	3,975	45.9
Japan	82,572	−12.8	21,935	−31.2
People's Rep. China	64,123	−20.2	14,609	−38.9
Hong Kong	66,661	6.7	19,461	9.3
Philippines	41,057	−22.1	11,993	−32.4
Malaysia	21,937	−6.8	6,668	−23.3
Singapore	17,727	−37.6	4,954	−49.1
Costa Rica	48,900	−10.7	13,234	−21.6
Colombia	41,519	−27.8	12,234	−35.0
Honduras	35,083	25.5	9,319	5.5
Panama	35,516	−22.5	9,335	−34.5
Ecuador	29,486	−14.2	10,309	−10.2
Guatemala	22,230	25.7	6,904	25.1
Israel	41,213	−11.9	12,186	−19.0
Saudi Arabia	28,547	0.3	7,048	−26.9
Nigeria	11,759	−2.1	4,073	2.0
Egypt	15,984	69.8	4,029	15.6
Canada	22,029	−12.6	7,687	−9.3
Mexico	17,888	131.1	5,785	124.6
Total*	**1,146,045**	**−17.6%**	**335,436**	**−25.7%**

*All countries, including those not listed
Source: U.S. Dept. of Commerce



ISSUE FOCUS: **OUTLOOK '86**

FOR U.S. PAPER INDUSTRY, ECONOMY, 1986 LOOKS LIKE A PRETTY GOOD YEAR

"Reflation" may be a key word as rises in inflation, economic activity are likely; declining dollar will aid paper and solid wood producers

All things considered, 1986 looks like a reasonably good year for the U.S. forest products industry in both the paper and solid wood sectors. Brighter times for the industry will mirror improvements in the nation's economy, where "reflation" seems to be a key word.

Sensitive to last year's economic slowdown—and perhaps to elections later this year—Federal Reserve chairman Paul Volcker has made it clear that he plans no sudden halt to growth in the money supply. As a result, analysts plan on a hotter economy in 1986, fueled by higher inflation. Analysts disagree as to whether inflation will edge up roughly a point or react sharply to the bigger money supply.

The optimists could look back as far as 1985's third quarter, when GNP growth accelerated sharply. After some disappointing preliminary estimates, Commerce Dept. statisticians produced a final figure of a 4.3% annual growth rate. The preliminary estimate of third-quarter growth was 3.3%. In comparison with the first quarter's tiny 0.3% growth rate, or the second quarter's sluggish 1.9%, the third-quarter rate was robust.

The housing industry reflected some of this strength. Last October, U.S. housing starts jumped nearly 11% to an annual rate of 1.76 million. This is fairly close to the rate many analysts predict 1986 will achieve and was the highest rate since 1.93 million starts in April 1985.

INFLATION TO INCREASE. The third quarter's faster growth did not set off a new round of inflation, although most economists expect some increase. A factor in this inflation prediction is a declining dollar. Since last fall, when finance ministers of the U.K., Fed. Rep. Germany, France, Japan and the U.S. agreed to try to push down the dollar, its value has declined slowly. A falling dollar will add to inflation's pace.

It will also boost U.S. exports. For some time, CEOs of paper companies have complained that the strong U.S. dollar has hurt them badly. First, it crippled exports of pulp and linerboard; second, it dampened domestic sales by making imports cheaper.

Eventually, a weaker dollar could help remedy this problem. But this is definitely not a situation where fast relief is in sight. "It will take another 20% to 25% decline in the value of the dollar before we are competitive in world pulp markets," admitted Mead Corp.'s chairman and CEO, Burnell R. Roberts, last October. He added that a "growing economy and weakening dollar will place the industry in a more profitable position."

"The next nine to 12 months will be critical in determining whether the [U.S.] paper industry enjoys relative prosperity in the second half of the 1980s or becomes bogged down by cost disadvantages and excessive capacity expansion outside the U.S.," suggested Gary Palmero, an industry analyst at Oppenheimer & Co. Inc.

DOLLAR MUST DROP. "The key variable is the degree of success in lowering the value of the dollar to make American industry more competitive internationally," Palmero said. "In any case, we would not anticipate any major near-term prosperity for domestic paper producers." He explained that even if the Group of Five manages to push the dollar down, it will take nearly a year to feel the effects. Meanwhile, "offshore producers

Outlook '86 was prepared by Pulp & Paper's *news staffers Ted Blackman, Dave Allan, Debra Adams, and Will Mies.*

are likely to accept lower profit margins to hold market shares until their currencies appreciate to the point of financial pain, or until worldwide demand for paper and allied products is sufficient to require price rationing."

For the economy as a whole, the outlook is pretty good. Economists surveyed by *Blue Chip Economic Indicators* last fall on average looked for a 3.1% advance in real GNP in 1986 compared with an estimated 2.5% increase last year. The projected quarter-over-quarter rate of advance tapers off to around 2.7% in the second half of 1986—"not exactly a vigorous trend," according to editor Robert J. Eggert. Nevertheless, only a sixth of the 51 economists surveyed looked for a recession or the start of one in 1986.

HOW MUCH INFLATION? The Group of Five nations who intend to cheapen the dollar also plan to stoke up their national economies. Their most likely tactic will be a dose of easy money—meaning more inflation in all of these key countries. But a return to the high inflation of the late 1970s isn't likely, most analysts contend.

"The world economy is flooded with more products than can be readily absorbed," noted Edward Yardeni, chief economist at Prudential-Bache Securities Inc. "Too many goods are chasing too few customers," he added.

Clearly this is true in the paper industry, where overcapacity is a major problem in several key grades. Lumber faces the same problem; predicted strong housing activity in 1986 will not sop up the abundance.

The economists surveyed by *Blue Chip Economic Indicators* on average look for a 4.1% rise in prices this year (as measured by the GNP deflator) compared with a 3.7% rise in 1985—but probably not high enough to cause the Fed to tighten up on monetary supply growth very much. As a result, they see interest rates (as measured by three-month Treasury bills) remaining relatively flat at around 7.6% this year.

Some monetarists expect last year's rapid growth in money supply to turn up in a higher rate of inflation by late 1986. But E.F. Hutton's chief economist, Robert J. Barbera, sees "little risk of inflation accelerating anytime soon, despite recent big money-supply gains, and even if the dollar keeps dropping—as I expect it will."

HIGHER PAPER PRODUCTION. These economic trends should create a relatively favorable environment for the paper/forest products industry this year. Analysts surveyed by *Pulp & Paper* expect a solid improvement in operating profits for paper companies. Even greater increases are likely for wood products firms, though many of them are starting from much lower bases.

Most agreed that price increases will be modest—if they go through at all. "For the paper and paperboard industry to raise prices in 1986, there must be GNP growth of 4% for two consecutive quarters," said H.C. Bowen Smith of Salomon Brothers Inc. "If price increases do not become effective in the second quarter of 1986, it is likely that there will be no price increase at all."

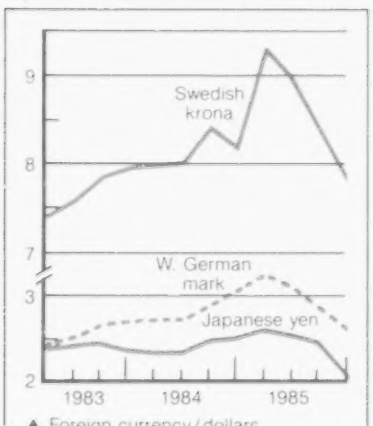
"The industry will have difficulty in raising prices," agreed Paine Webber Inc.'s Lawrence A. Ross. He predicted only modest cost increases, however, and a 20% to 30% rise in paper industry profits.

Operating rates to exceed 92%. The analysts *P&P* surveyed expect paper mills to run at about 92.6% this year; paperboard operating rates are forecast only slightly lower at 92.3%. These rates are up from late fall 1985 forecasts of 91.4% for paper and 90.8% for paperboard.

Within the main categories, estimated operating rates vary widely. Thomas Clephane and Jeanne Carroll of Morgan Stanley predict paperboard operating rates will range from 87.1% for recycled to 96.5% for corrugating medium. Kraft liner should run at about 92.6%.

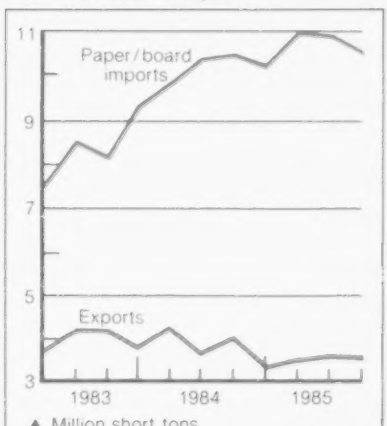
On the paper side, Clephane and Carroll expect coated free-sheet and groundwood mills to operate at 98.3%; other rates include 98.4% for newsprint, 88.4% for unbleached kraft, 92% for uncoated free sheet, and 87.3%

The rise of the dollar against other currencies. . .



▲ Foreign currency/dollars (yen expressed in 000s)

. . . hurt U.S. paper exports and attracted imports. . .



▲ Million short tons (quarterly shipment annualized)

Source: Commerce Dept.

. . . holding down prices in the U.S. market

▲ Producer price index (1967 = 100)

Source: BLS

for uncoated groundwood.

Bruce Kirk of Goldman, Sachs & Co. predicted that combined operating rates for the paper/paperboard industry will average 94.2% this year. This is only slightly below the 94.7% rate in the third quarter of 1984, and significantly better than the industry's 88% combined rate in the second and third quarters of 1985.

Communication & Information Services' *Paper Industry Forecast* is more optimistic about paper prices and profits than other analysts. CIS predicts a strong recovery for the industry this year after the slump last year. Consumption of paper and paperboard will go up 4.6% from 1985 levels, while production rises 5%. Paper and board plants will operate at about 93.6%, CIS said.

Imports will continue to bother U.S. producers, especially imports of coated and uncoated papers, because of worldwide overcapacity and the dollar's relatively high value. As for exports, CIS said even a cheaper dollar won't make it much easier for U.S. paperboard mills to sell overseas.

Prices for commodity grades of paper and paperboard will improve significantly in 1986, CIS predicted.

Uncoated free-sheet producers face an unsettled market, according to Joseph V. Flaherty of Central National-Gottesman Inc. Domestic capacity is up, and producers in Europe and South America find the U.S. market attractive and intend to stay in it. In light of the oversupplied market, prices are apt to be quite competitive.

Coated groundwood, which has been in a boom condition for several years, may be facing a slowdown. Flaherty noted that supercalendered papers have become a permanent competitor to lightweight coated stock, and "order backlogs have softened, and it is apparent that the momentum [in coated groundwood shipments] has slowed down."

Market pulp is probably the industry's weakest grade, but there is some reason to expect higher prices. Mark Rogers of Dean Witter Reynolds Inc. believes "there is potential for a significant improvement in the way investors view market pulp prospects" in 1986. Rogers noted that labor contracts in British Columbia expire this spring: "another industry-wide work stoppage could do wonders for this product, as it did in 1984."

Rogers is equally optimistic about linerboard. Domestic demand seemed to be rising late last year, and inventories at box plants were quite low. The result will be "a surprisingly strong linerboard market as 1986 progresses, particularly compared with the highly depressed markets for most of 1985." He predicted that liner prices will rise from $290/ton currently to $350 by next fall.

PROFITS, CAPITAL SPENDING TO RISE. Although the industry will continue to face its share of problems this year, it should make more money than it did in 1985. Analysts' estimates of paper company earnings from continuing operations all showed increases.

The most conservative views suggested that earnings would go up about 15%; other estimates ranged from 20% to a whopping 76% increase. For wood products producers, 1986 should also bring better earnings. Estimates ranged from 5% to 45% higher than last year.

Paper companies' plans for capital spending are covered elsewhere in more detail (see p. 103). Analysts agreed that most of the money will be directed toward upgrades and conversions to produce different grades.

In nominal dollars, the industry's capital spending will rise this year, noted Paine Webber's Ross. "If you include mill conversions to other grades, more would be spent on capacity than on cost reduction. Returns are not high enough to justify new mills, but are high enough to encourage new machines in some grades, e.g., coated printing paper," he said.

Smith of Salomon Brothers expects "a rapid change in capital spending plans in both the paper and wood products industries from 1987 to 1990. We anticipate no greenfield additions—capacity increases will result primarily as companies integrate forward from market pulp.

"All other cash flow will be used for cost-reduction projects and quality improvement. On the bleached and unbleached side, customers will favor producers that can supply products by specifications rather than by basis weights and that can offer 24-hour delivery and increased service."

BRIGHT OUTLOOK FOR WOOD. For lumber and structural panel producers, the outlook is also fairly bright. U.S. housing starts have much to say about how well the wood industry will do, and the outlook is for starts to be at least as strong this year as they were in 1985.

Jaak Puusepp, vice president of Pemberton Houston Willoughby Inc. in Vancouver, B.C., sees a good year for the American economy—and a banner year for British Columbian sawmillers. He expects British Columbian sawmills to run at full capacity this year, helping supply lumber for 1.87 million U.S. housing starts. Other analysts *P&P* surveyed estimated that U.S. builders would start about 1.8 million units this year.

Because of this anticipated strength in housing, Puusepp predicted that U.S. softwood lumber consumption would rise from about 44 billion bd ft last year to 46.5 billion in 1986, a 5.7% increase. Canada will supply about 16.5 billion bd ft, 17.2% more than in 1985. Completing his rosy view for the lumber industry, Puusepp forecast a 16% increase in the average price for spruce-pine-fir lumber, to around $178/1,000 bd ft.

MAJOR POLITICAL ISSUES. U.S. fiscal and monetary policy is the industry's most important political problem, in the view of Salomon Brothers' Bowen Smith.

"The fiscal/monetary situation in the U.S. affects interest rates, which affect the dollar, which affects housing. Over the long term, U.S. timber supply will be af-

TABLE 1: **Analysts' projections for 1986.**

	Percentage change from 1985 levels (unless otherwise indicated)							
	Growth in real GNP	Paper/board production	Operating rates[1] Paper	Operating rates[1] Paperboard	Prices	Operating profits Paper	Operating profits Forest prod.	Housing starts[2]
George Adler Smith Barney	+2.0%	+3.0%	92%	90.5%	+3-4%	+25-40%	+40%	1.7 mill
Bruce Kirk Goldman Sachs	+3.4	+6.6	94.2 (combined)		—	+39	+45	2.0
Evadna Lynn Merrill Lynch	+2.9	+2.9	91.4	90.5	+1.7	+14.4	+23.3	1.78
Mark Rogers Dean Witter	+3.5	+5.1	92.8	93.7	+8.7	+48	+34	1.8
Lawrence Ross Paine Webber	+3.2	+4.1	93.1	93.1	+3.4	+20-30	+25-35	1.8
H.C. Bowen Smith Salomon Brothers	+3.0	+3.0-3.5	92.9	91.5	+3-8	+15	+5	1.7-1.75
William Wigder First Boston	+2.0-3.0	+2.3	91-92	91-92	+5	+15	+30-75	1.75
Average	**+2.9**	**+3.9**	**92.6**	**92.1**	**+4.6**	**+26.9**	**32.7**	**1.8**

1. Production as percent of capacity. 2. Millions of units.

fected by changes in the tax law, which could eliminate capital gains treatment for companies and, at the same time, make it impossible for companies and individuals to expense forestry costs in the year they occur."

The fate of the tax reform bill is very much in doubt. By late November, the House Ways & Means Committee had agreed to retain tax breaks for small, individual tree farmers; corporations would lose them.

COATED PAPER

GETTING READY FOR TROUBLE

■ Coated paper mills should enjoy a fairly good demand in 1986, which is a good thing: with a dramatic capacity increase coming between mid-1986 and the end of the decade, the industry will need to gird for the coming battle. Pricing will be a problem this year and could be even more troublesome in the next two or three years.

Coated paper demand was strong in 1985 and should rise by about 4% in 1986, virtually the same pace as the planned capacity increases. However, most of the new capacity will be in coated groundwood (a 5.3% jump as opposed to a 1.9% increase for coated free sheet), and that area could have pricing problems through the year. Furthermore, the projected 5.3% coated groundwood capacity increase does not include the new 220,000-tpy Repap Enterprises Inc. machine starting up at Newcastle, N.B., in midyear.

If coated groundwood does face pricing pressures in 1986, it would not be anything new. In fact, to the surprise of most observers who expected the very tight market of 1984 to continue, the industry found itself with some excess capacity in 1985 despite the strong level of demand. Thus, as the year advanced, subtle forms of price relief were offered to customers, and by the summer it was clear that outright though modest discounts were being offered, mostly through merchants and brokers. And in December, some producers began offering discounts to contract customers, which brought the price down about 4% from the price those customers were already paying.

Imports and inventories. Two factors explain the industry's pricing problems in 1985: imports and inventories. Through last August, imports were up at an annual rate of 32% over the same period in 1984, although the rate of imports peaked in March. If the pattern of the first eight months continued through the year, 1985 imports would have reached as high as 526,000 short tons compared with 428,000 tons in 1984. The large majority of coated paper imports are groundwood.

The biggest single factors in the increase were Fed. Rep. Germany, Italy, and Finland, which between them represent well over half of all coated paper imports to the U.S. Traditional supplier Canada was shipping at a

rate comparable to that of 1984.

Main reasons for the increases were the desire of U.S. printers and publishers to diversify their source of supply and, in some cases, to find a lower price. Both factors are expected to be less important in 1986.

The other cause of the weakening of groundwood prices in 1985 was the buildup of customer inventories beginning in late 1984. With availability a problem through most of that year, customers double-ordered whenever they could. They didn't realize they were making progress until their stocks were built up to impressive levels. Then when demand slowed down seasonally in the first quarter of 1985, stocks were excessive and customers began to trim.

That reduction continued throughout 1985 and is expected to last into 1986, although inventories in late 1985 were already getting to be fairly low again. But with two new LWC machines coming onstream in North America in mid-1986 and another 6.5% coated groundwood capacity increase expected in 1987—plus more in 1988 and beyond—customers were beginning to believe they wouldn't need heavy stocks for the next few years.

GROUNDWOOD OPERATING RATES. Of course the correctness of their decision depends on levels of demand. Through October the coated groundwood industry in the U.S. was running at almost a 92% operating rate, which is below the full-out conditions of the previous year, but which also doesn't leave much room for increases if the U.S. economy grows by more than the 2.5% to 2.75% rate that is generally expected.

In all probability the coated groundwood industry in 1986 won't run much better than 91% to 92%, which would make actual price increases somewhat difficult but not totally impossible in light of the expected decline in imports. The consensus in late-1985, however, was that the industry would begin to bring its price back by the fall of 1986 to where it had been in the fall of 1985.

Morgan Stanley & Co.'s analysts, Thomas Clephane and Jeanne Carroll, are more optimistic on operating rates, projecting a rise to 96% in 1986 from their estimate of 94.2% for 1985. They still feel prices will be difficult to increase, however. In fact, they wrote late in 1985 that they expect no coated paper price hike in 1986, referring to the "diminished likelihood of price increases in 1986 and 1987."

Coated paper's major markets should enjoy a good year in 1986 in terms of paper demand levels, but volumes won't be much above where they were in 1985. Irv Herschbein of Conde Nast Publications told a magazine publishing meeting last November that he expects his industry's performance in 1986 to be similar to its 1985 showing: "flat or slightly down."

A positive trend in one sector, Sunday magazines, could hurt mills' business in the traditional magazine sector. Some West Coast newspapers have begun to beef up their Sunday magazines with improved editorial packages and a swing to LWC, something that Herschbein listed as a possible threat to regional and city magazines in those areas.

Paper consumption by printers of inserts and flyers will continue to grow, although Paul Koessler, president of Greater Buffalo Press, believes that the recent 10%/year growth rate in insert printing is slowing down somewhat. This sector is important to both groundwood and free-sheet mills. And the catalog business, also important to both sectors, has reached a saturation point beyond which growth in paper demand will be slowed by the disappearance of uneconomic catalogs and the desire of catalog producers to control costs.

Indeed, all advertising- and promotion-driven printing will probably grow more slowly in 1986 than in recent years due to customer cost-containment efforts. And if advertisers perceive the U.S. economy heading into a recession in late 1986, many of them will pull in their horns even further.

Another factor that will affect both groundwood and free-sheet mills is the continuing desire of the customer for better appearance qualities in paper. Central National-Gottesman Inc.'s senior vice president, Joseph Flaherty, wrote recently, that "it is possible that we are entering a period of more selective catalog mailings which would reduce the quantity of paper used; but it is predicted there will be an increase in paper quality characteristics" at the same time.

HELPING FREE SHEET. The mills which would benefit from this would mostly be producers of Nos. 2, 3, and 4 roll offset, and all free-sheet grades except for some No. 4 groundwood. Scott Paper Co., which has achieved a big market success with No. 3 paper produced by its Skowhegan, Maine, mill, plans to start up a second 215,000-tpy machine at the facility in 1986. Recently a major merchant said the Skowhegan sheet was one of the few coated paper products still on allocation, and the company is expected to have no trouble selling out the production of the new machine when it starts up.

In general, coated free sheet should suffer less from overcapacity than coated groundwood although a surplus of coated groundwood could undermine pricing for Nos. 3 and 4 free sheet. Through October 1985, coated free-sheet mills were running almost a full point higher than coated groundwood mills in terms of operating rates, and that spread will continue through 1986. This will support prices for coated free-sheet, which have been firmer than groundwood quotes recently, although free-sheet mills would be taking a chance if they raised prices significantly in 1986 in the absence of a simultaneous groundwood hike.

Then in 1987, U.S. coated free-sheet capacity will rise by 8.6% while coated groundwood capacity goes up 6.5%—and unless the economy comes to the rescue, the entire coated paper industry will find its mettle tested.

UNCOATED FREE-SHEET

ANOTHER YEAR OF SLOW RECOVERY

■ Uncoated free-sheet mills in the U.S. will enjoy another excellent year in terms of shipments in 1986, and they may also note some improvements in prices. But with capacity increases heating up somewhat in 1987, 1986 may be remembered in retrospect as one of the best years of the decade.

That prediction depends heavily on the performance of the U.S. economy, but most observers feel North American producers will benefit from a small decline in the market share of imports. At the same time, consumption should grow by a little more than 4%, which—combined with a drop in imports—will help the U.S. industry to more or less keep up with a 4.4% increase in capacity.

Thus operating rates should remain on a level with 1985. Through October, U.S. uncoated free-sheet mills were operating at about 92% although Morgan Stanley & Co.'s analysts, Thomas Clephane and Jeanne Carroll, expect rates to run closer to 91% in 1985, 1986, and 1987.

Uncoated free-sheet turned in an uneven performance in 1985 in terms of its different end uses, with forms bond and copy paper shipments rising in the 3% to 4% range and shipments to commercial printers going up less than 2%. Customer inventories were very low through much of the year and then, when order backlogs jumped in the fall, customers began to worry about availability.

Order backlogs at some mills were running as much as six weeks in November, more than double that of most of the year. Even in the first three quarters of the year, the total number of orders received by the industry rose twice as fast as the 4% increase in shipments. And in the fourth quarter, customers actually had to shop around for paper to meet printing schedules.

RECOVERY IN PRICES. This, in turn, helped prices to bounce back from the summer doldrums, although by November quotes were still down by about 3% from year-earlier levels in the case of cut-size and roll offset. This, however, was a big improvement over earlier in the year: in the first quarter of 1985 roll offset prices were 25% below the first period of 1984, while cut-size quotes were running 16% behind year-earlier numbers.

Clephane and Carroll project an increase in average per-ton profits from the $65 level in 1985 to between $69 and $96 in 1986. Their assumption is based on a rise in a weighted average of prices of between 3.3% and 6.8% in 1986, compared with the 4.8% drop they estimate for 1985. They foresee prices returning to around where they were in 1984.

If prices rise dramatically in 1986—which is unlikely in light of the planned capacity increases—there is a real danger that imports will return with a vengeance. Central National-Gottesman Inc.'s senior vice president, Joseph Flaherty, wrote recently that there was concern "that overseas producers will have similar capacity problems" to those of the U.S.

With that possibility, Flaherty outlined a scenario in which some of the major overseas producers of uncoated free sheet try to minimize their troubles by exporting incremental tonnage to the U.S. And, he warns, this trend could have "the effect of one or two new paper machines imposed on an already oversupplied condition in the U.S."

Furthermore, an executive with a paper company noted, the U.S. market could become even more attractive to importers if U.S. prices climb too fast. In an article in the fourth-quarter edition of the *Central National-Gottesman Report*, however, Flaherty pointed out that "in an oversupply situation like the present, it is expected that U.S. producers will protect their traditional business and the imports will find the market to be very competitive."

CLOUDY LONG-TERM OUTLOOK. The long-term outlook for uncoated free-sheet is very cloudy indeed, if many of the possible capacity expansions take place. In addition to already-announced projects, companies considered to be candidates for new uncoated free-sheet machines by the early 1990s include Champion International Corp. (Quinnesec, Mich.), Boise Cascade Corp. (International Falls, Minn.), Great Northern Nekoosa Co. (at its Leaf River mill at New Augusta, Miss., or at Ashdown, Ark.), Hammermill Paper Co. (a second unit at its new Selma, Ala., mill), Union Camp Corp. (Eastover, S.C.), and Weyerhaeuser Co. (Columbus, Miss.). A Data Resources Inc. study published in 1984 is said to have listed another five specific machines as possible by 1995.

And a 250,000-ton expansion at Domtar Inc.'s Windsor, Que., mill, with new machines coming onstream in 1987 and 1989, is not included in the American Paper Institute's capacity figures. Domtar plans to sell the majority of the 350,000-tpy output of the mill in the U.S. and expects to become a much more established presence in the market than it has been. Overall, then, supply of paper in the late 1980s and 1990s will be adequate to fuel a very healthy expansion in demand.

But some of the long-term consumption numbers look impressive too. Hammermill executives told reporters in October that the U.S. copy paper market should rise from the 1.8-million-tpy level of late 1984 to a 2.5-million-tpy rate by the end of 1988. And they see the commercial printing market continuing to grow at a 3% to 4%/year rate over the long run.

The executives admitted that market prospects in the next few years are troubling. But looking at the prospect for substantial new capacity in the future, they expressed one cautiously optimistic belief: that forward integration of market pulp mills into white papers—which some observers fear could continue to destabilize un-

coated free sheet for years to come—will not extend much beyond projects already announced or under serious study.

CUSTOMER INVENTORIES. In the meantime, prices are not high enough to fund another big round of capacity expansions. It is not likely that customers will build inventories as high in 1986 as they were in early 1984, and thus there will continue to be excess supply.

With substantial new capacity available to the market in the next few years, prices will probably not accelerate dramatically until the end of the decade—which could postpone any new round of capacity building beyond what has already been announced to the early-to-mid-1990s. The only joker in the deck, aside from the always-unpredictable U.S. economy, is the possibility that market pulp prices may fall so far that pulp mills feel forward integration is worth the tremendous risk.

BOXBOARD

OUTPUT TO RISE; PRICES TO TAKE LONGER

■ Demand for boxboard was off about 3% overall in 1985, but the most significant factor in the market was depressed prices. Volume is expected to increase slightly in 1986, but list prices could take longer to return to 1981 levels, industry observers indicated.

Industry analysts expect a modest recovery for boxboard in 1986. Thomas P. Clephane, of Morgan Stanley & Co. Inc., expects production of solid bleached board to rise 2.4% in 1986, while Rodney Young of Resource Information Systems Inc. forecasts a hike of 1.4% in 1986 and 9.4% in 1987. Clephane predicts recycled board output will be up 2.5% in 1986, while Young expects a slight decline of 0.9%.

J. Rodney Edwards, American Paper Institute vice president, paperboard, forecasts that recycled board production in 1986 will be slightly above last year's output but will not quite reach the level of 1984.

In the folding carton market, observers generally expect clay-coated recycled board to perform better than SBS next year due to a sharp rise in bleached board capacity, according to API projections.

Recycled folding carton capacity should rise just 0.6% in 1986 and 1.6% by 1988, while SBS folding carton capacity will be up 11.5% in 1986 and 15.2% by 1988. This should keep the bleached board market soft at least through 1986, many observers indicated.

Westvaco Corp. alone is slated to start up a new 175,000-short-tpy SBS machine at its Covington, Va., mill in the first quarter of this year. One observer, however, expects this additional volume will not affect folding carton or milk carton markets. He said the tonnage is geared to the 0.008 to 0.014 basis weight range and should affect only current imports from Scandinavia for aseptic packaging.

LOW GRADES MAINTAIN CAPACITY. Although high grades of recycled board—tube and core stock, gypsum wallboard, test linerboard and recycled corrugating medium—have increased in capacity in recent years, plain chip and white vat capacity has actually shrunk, noted one observer. This should help firm up the lower grades in the coming months, he said.

He expects uncoated recycled board mills to operate at 89% to 91% capacity in 1986, but prices will probably not rise until wastepaper prices also increase. The two markets must move together for recycled mills to justify a hike to their customers, he said.

In the SBS market, an East Coast observer forecast improvement in 1986 on a tonnage basis, with folding carton up 6.9% and some improvement in cup and plate, but with the biggest increase to be in file folder. He said he expects a record SBS production in the first half of the year.

Another observer thought 1986 bleached board volume would be up from 1985 due to a slight growth in the economy, with milk carton rising by 2%; cup, 3%; plate, dish, and tray, 1.5%; and file folder, 3%. He also expects exports to improve as the dollar weakens.

Prices for clay-coated recycled board might start to rise as early as the first quarter if order backlogs—which were strong late in 1985—remain good after year-end mill maintenance and holiday shutdowns. SBS prices, however, will probably not rise until mid-year due to

TABLE 2: **Folding carton production (000 short tons).**

	1984	1985	1986	1987
Total production	**4,330**	**4,316**	**4,333**	**4,678**
Change (%)	5.9	−0.3	0.4	8.0
Bleached board	1,846	1,761	1,827	2,007
Share (%)	42.6	40.8	42.2	42.9
Clay-coated recyc.	1,572	1,591	1,547	1,652
Share (%)	36.3	36.9	35.7	35.3
Uncoated recycled	706	711	676	704
Share (%)	16.3	16.5	15.6	15.1
Unbleached kraft	207	254	283	315
Share (%)	4.8	5.9	6.5	6.7

Source: Resource Information Systems Inc.

TABLE 3: **Bleached board production by end use (000 short tons).**

Year	Milk carton	Folding carton	Cup/ plate	Export	Other	Total
1984	645	1,847	708	478	370	**4,048**
1985e	—	—	—	—	—	**3,925**
1986e	—	—	—	—	—	**4,020**
1987e	645	1,930	708	540	417	**4,240**

Source: Morgan Stanley & Co. Inc.

still unstable pricing late in 1985, some observers noted. Others, however, noted that bleached board backlogs late in 1986 were out several weeks in some cases.

UPHEAVAL IN MARKETING PRACTICES. Most industry observers felt 1985 was one of the worst years for boxboard and changed the way some grades were traditionally marketed. SBS, for instance, was no longer being sold on quality alone.

Depressed conditions in the boxboard industry began to surface late in 1984 and continued to worsen in the first half of 1985. The deterioration slowed somewhat by the third quarter and leveled off at year-end after a brief flurry of activity in September and October.

Through most of the year, pricing became more competitive, with discounting widespread and list levels off significantly in virtually all grades of boxboard.

The most substantial erosion, however, occurred in bleached board. SBS was hurt both by a drop in export demand as well as by depressed pulp markets. In addition, low wastepaper prices enabled clay-coated recycled board producers to compete more effectively in SBS markets, causing the loss of some bleached board market share.

By year-end, 20-pt clay-coated board in rolls was selling generally at $350 to 400/short ton compared with $375 to $425 in January, while 15-pt SBS in rolls was at $500 to $590 compared with $590 to $665/short ton at the beginning of 1985.

In comparison with other grades of recycled board, clay-coated folding boxboard did fairly well in 1985, said Edwards. Another observer, however, said conditions were weaker in certain areas. A West Coast observer reported that producers from other areas such as the Midwest, the U.S. South, and Mexico were shipping low-priced goods to the West, causing a decline of 10% to 30% in orders in that area. He saw no significant improvement in 1986. Another observer said SBS folding carton demand declined significantly in 1985, while cup stock and file folder were up. Tag stock and other bleached board also were down, he noted.

Solid unbleached sulfate paperboard remained the one strength in the boxboard market in 1985. Prices were generally stable throughout most of the year, and were even raised during the second half. SUS is expected to be the boxboard market's most significant growth area in the next few years, according to some analysts.

CONTAINERBOARD

RECOVERY LIKELY—BUT HOW STRONG?

■ Strengthening U.S. industrial production, the falling dollar, and limited capacity growth make some industry observers optimistic that containerboard will enjoy a strong pickup in 1986. This would be a welcome change from last year when many producers operated close to or below the breakeven level. Industry executives blamed the strong dollar as the main reason for last year's poor performance. The dollar's rise had the two-edged effect of depressing U.S. industrial production (to which corrugated box shipments are closely tied) and reducing linerboard export shipments.

THE DOLLAR'S DOUBLE WHAMMY. The inability of U.S. linerboard exporters to compete at price levels prevailing in overseas markets caused a backup of tonnage in the domestic market. Unbleached liner export shipments dropped from 2.1 million tons in 1983 to an estimated 1.6 to 1.7 million tons in 1985—a 400,000 to 500,000 ton drop.

Domestic demand was not strong enough to absorb the extra supply—since at the same time U.S. box plants were being hurt by the wave of imported merchandise packaged in boxes made overseas. Containerboard mill inventories climbed sharply, and producers began fighting for orders in the independent box market. The result was a dramatic slide in linerboard prices from the $350/ton level which briefly took hold in the fall of 1984 to $260 and lower by last summer.

The decline took prices down to about their level in the last recession, even though operating rates for linerboard mills last year averaged close to 90% vs 84% in 1982, analyst George B. Adler of Smith Barney has noted. Such price levels were unprofitable for all but the most efficient mills, although integrated producers were shielded somewhat by a less severe erosion in corrugated box prices.

Producers tried to raise containerboard prices by $30/ton last fall, but the hike was not initially successful. Still, the containerboard market began to show signs of tightening up late in the year due to some pickup in demand plus curtailments at a number of mills for a variety of reasons—market-related downtime, strikes, machine rebuilds, and an environmental dispute.

Inventories of containerboard at box plants and mills by Oct. 1, 1985 had dropped to 2.54 million tons from 2.89 million tons at the beginning of 1985 and from a peak level of 3.02 million tons reached on Apr. 1.

PRICE SURGE? "The powerful combination of a rising domestic demand and an exceedingly low inventory position at box plants will result in a surprisingly strong linerboard market as 1986 progresses, particularly compared with the highly depressed markets for most of 1985," according to Mark S. Rogers of Dean Witter Reynolds. He believes linerboard transaction prices will return to the current $290 list on Jan. 1, 1986 and further rise to $320/ton in the spring before regaining their prior peak level of $350/ton in the fall of 1986.

A similar price forecast is offered by Thomas P. Clephane and Jeanne K. Carroll of Morgan Stanley Inc., who see operating rates for liner mills rising to 92.6% in 1986

and those for corrugating medium mills to 96.4%. They project a 4.3% increase in linerboard production this year, helped by a nearly 11% increase in export shipments. Box shipments will rise about 3% in 1986 after about a 1% decline last year, they project.

NO NEW MACHINES. The latest American Paper Institute survey, which shows linerboard capacity rising only 1.6% over the 1986-88 period, is another reason some analysts are optimistic. Only one new machine has been announced for this period—the new 315,000-tpy multi-ply machine just beginning production at Chesapeake Corp.'s West Point, Va., mill. It will be partly offset by conversion of an existing liner machine to recycled medium.

Not included in these capacity figures, however, is the 175,000-tpy recycled liner mill Temple-Inland Inc. completed last fall in the Los Angeles, Calif., area. No additional semichemical or recycled medium machines are planned, and one 105,000-tpy machine at Manville Forest Products Corp. was recently shut down.

The threat of additional linerboard capacity from the conversion of kraft paper machines—threatened by plastic grocery sacks—has not materialized. Most of the machine conversions by International Paper Co., Georgia-Pacific Corp., and Champion International Corp. have been to white paper production. An exception is G-P's conversion of a swing machine at its Monticello, Miss., mill to 300,000-tpy of liner production—although some kraft paper will still be produced.

As for the stagnant kraft paper market, removal of some 700,000 tons of capacity over the 1984-86 period is helping to bring supply and demand into better balance, William M. Wigder of First Boston has noted. Prices rose $30/ton this fall on grocery bag and sack paper grades and a further increase was possible in December.

But capacity creep? Not all analysts, however, are convinced that the containerboard market will show a substantial pickup next year. Evadna S. Lynn of Merrill Lynch believes that industry capacity growth will be higher than expected due to incremental expansion from cost-reduction projects—such as installation of new high-pressure presses and secondary fiber lines.

She also believes that linerboard capacity throughout the world was being added at almost twice the 1.5% annual rate of expansion in the U.S. "Thus, a weaker dollar may not bring back exports to customers who have become increasingly self-sufficient or who are being wooed by nontraditional suppliers to world markets."

U.S. linerboard mill operating rates will only advance to 92.3% in 1986—below the "magic" 95% level at which producers have the most success implementing price increases, according to Lynn. She believes that as a result linerboard prices will rise to the $290 to $300 range this spring and to $320 next fall.

But even the more pessimistic forecasts represent a big improvement for the industry over 1985.

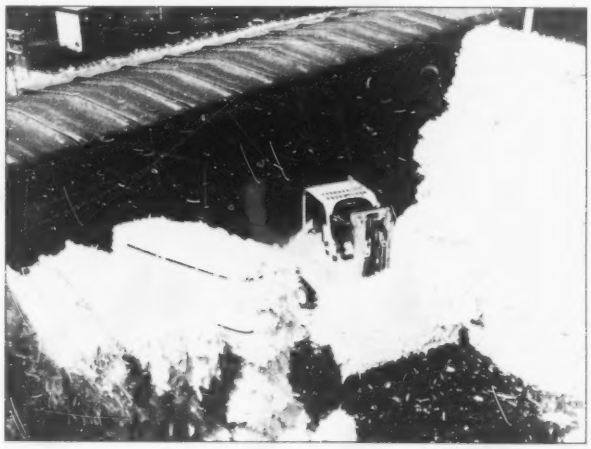
WASTEPAPER

EXPORT DEMAND TO IMPROVE

■ Wastepaper consumption fell off substantially in the U.S. in 1985 after a robust recovery in the previous year. Export demand, however, managed to hold up the market until late summer, when it also began to erode.

With exports—the one bright spot in an otherwise lackluster market—failing by the fourth quarter, many observers were calling 1985 one of the worst years for the secondary fiber business and thought it would take at least until mid-1986 for the market to fully recover. An upward trend, however, could begin as early as the first quarter, they noted.

Domestic consumption was off 4.4% for the first eight months of 1985 compared with that of a year earlier, according to American Paper Institute figures. Exports for the first three quarters, however, were still 2.0% ahead of the same period a year earlier. By September, though, overseas demand was slipping, off 23.5% from August's total.



Despite poor demand, the market would not have been as severely depressed in 1985 were it not for prices also being down sharply from 1984 levels. Most grades were off by 50% or more, with the lower grades down the most. The low grades fell sharply in the first quarter and then declined slowly during the next two quarters. The high grades started falling gradually in the second quarter and continued slipping late in the year.

Export prices were also down substantially. According to one observer, the decline in prices in shipments to Taiwan from August 1984 to August 1985 was as follows: news, − 21%; deinking, corrugated, − 14%; − 23%; pulp substitutes, − 27%; and all other grades, − 11%.

PRICES STABILIZE BY YEAR-END. Prices on the domestic market, however, appeared to have leveled off by year-end. The low grades were thought to be about as

low as they could get, and an expected revival in the export market later in the year was keeping pulp substitutes and deinking prices steady. In addition, reduced cut-up at converting facilities due to normal year-end slowdowns was helping to control higher grade supplies.

Observers were somewhat optimistic about the outlook for 1986, expecting improvement beginning early in the year based on a projected pickup in the overall paper industry, as well as in U.S. and worldwide economies.

Several capacity expansions for grades using fiber from old corrugated containers were expected to come onstream in late 1985 or early 1986. This, together with increased demand for export of OCC, could cause "tightening in the supply situation," said J. Rodney Edwards, American Paper Institute vice president, paperboard.

One midwestern dealer expects OCC and new double-lined kraft corrugated clippings to improve first, beginning in the first quarter. This will be followed by a pickup in news, boxboard cuttings, and mixed papers. Much of this will be going for export, he said.

Exports to remain robust. Most observers were certain that export markets for paperstock would be active in 1986 and beyond. Computer printout is expected to be one of the key grades to grow as a result of expanded export demand. Increased lazer content in CPO, however, will cause some overseas buyers in time to switch to comparable grades such as hard white shavings or envelope cuttings, or ledger for those mills having deinking systems, noted one West Coast broker.

OCC and news should also remain popular export items—although the outlook for news is less certain due to plentiful supplies. Inventories of OCC, however, appeared to be diminishing late in 1985 due to increased demand. Exporters—particularly those from the East Coast—had increased shipments to overseas customers as they became concerned about rising freight rates off the West Coast. This could lead to a shortage early in 1986, noted Edwards.

Consumption of U.S. wastepaper in overseas countries is expected to rise in 1986. Expansions to recycling capacities—especially in the Asian countries—are slated next year. In addition, many foreign countries have attained their highest possible recycling capabilities for mixed papers, news, and OCC, said Edwards.

One observer noted the U.S. paperstock market will be increasingly influenced by overseas mills as they become more and more dependent upon U.S. secondary fiber—generally of higher quality than that found in other countries. He felt the U.S. recovery rate should reach 30% late in the 1980s, mainly due to rising exports.

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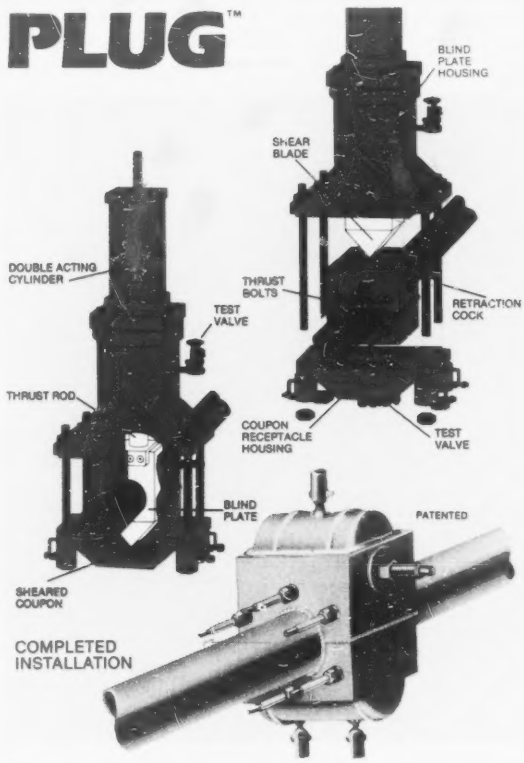

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DECENT OPERATING RATES AND SLOW FIRMING OF PRICES PREDICTED FOR 1986

Canadian pulp and paper mills kept their employees fairly busy in 1986, although they had to cut prices to do it. Despite price weakness in all the industry's major export products, eastern Canadian mills boosted profits. Meanwhile, British Columbian firms were generally back in the black after some bad years in the early 1980s, although one or two were still mired in red ink.

Mills that did best in 1985 were generally those with heavy newsprint, uncoated groundwood, or tissue involvement. Companies dependent on pulp sales for the majority of their revenues turned in poor performances, even losing large amounts of money in a few cases.

Some of that may change in 1986—and not for the better. Analyst Brian Topp of Midland Doherty Ltd. recommends investors sell virtually all eastern newsprint stocks. That doesn't mean Topp believes newsprint is currently unprofitable—indeed, he thinks the average Canadian newsprint mill today makes C$120/metric ton on sales in the U.S., about on a par with U.S. mills. But he expects to see earnings decline by 10% to 20% in 1986. And he thinks the industry is in for tough times in the next five years, with decent profit levels not returning until the early 1990s.

Despite the problems faced by Canadian paper mills—with overcapacity heading the list—there are some reasons for optimism. Topp assumes that the political clout of Canada's big exporting industries will result in a Canadian dollar of US$0.70 or lower in the next few years, which will give pulp and paper mills a profit hedge for a few years. However, the difficult newsprint markets he sees for the next few years mean newsprint mills won't be able to capitalize on the weak currency. He also worries about the concommitant possibility of protectionism in the U.S.

STRONGER CANADIAN DOLLAR. In its outlook for the Canadian economy, however, the Conference Board of Canada assumes that the country's currency will "hover around the US$0.73 mark until 1988, appreciating by a half a cent per year thereafter."

The reason for the Conference Board's projection is that it assumes the present differential between U.S. and Canadian interest rates will narrow over the next few years. The group believes Canada's prime rate will drop by just under 130 basis points over the next year and then bounce back up by 110 basis points by the end of 1990.

While Canadian interest rates are moving closer to those of the U.S., Canada's economic growth will continue to track the U.S. performance. The Conference Board expects Canada's gross national product to rise by about 2.5% in 1986 and 1987, with growth dropping to around 1.5% in 1988-90. This follows a 4.1% rise in 1985. On the other hand, the Columbia Business School's index of leading indicators for Canada, developed for the U.S. Conference Board, shows a rise of 5%/year for Canada, compared with a 4% showing by the index six months ago. The Conference Board's interpretation of the index for Canada is "expansion continuing." By contrast, the index for the U.S. shows a 1% growth rate, identical to the estimate of six months ago.

Canada's inflation rate should remain low until late in the decade. The Conference Board projects an increase in the Consumer Price Index of just 3.3% in 1986 and 1987, rising to 4.7% in 1989.

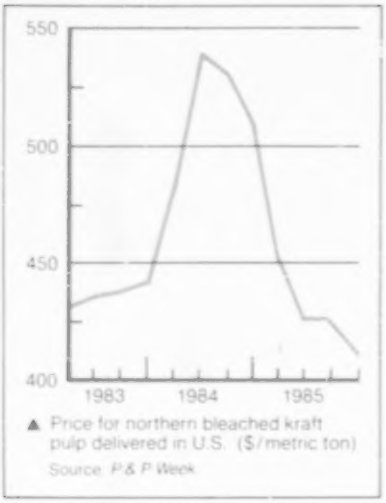
Government policy in the next year is expected to be restrictive, following the government's announcement last May of tax increases and a spirit of restraint in federal spending. That spirit will restrain consumer spending and overall economic activity as well. Real disposable income is projected to rise just 0.6% in 1986, following a 4.2% jump in 1985.

Unemployment is expected to remain troublesome—it will still be almost 9.5% in 1987, down modestly from the 10.7% of 1985—which means that political pressures on the government to aid troubled pulp and paper mills will not abate. Through 1987 Canadian employers are expected to increase their work forces by 2.5%/year, but for the two years after that employment should rise by just 1%/year. Thus, any fall in unemployment depends on greater-than-predicted economic expansion.

High unemployment could make life a little easier for the industry in one sense, however: with a 13% jobless rate in British Columbia—where Canadian labor negotiations are focused in 1986—unions in that western province are expected to be more concerned about job security than about wage hikes or extra days off. Pay increases could be the most moderate in years. Perhaps the most significant change considered possible is the delinking of forestry talks from paper mill negotiations.

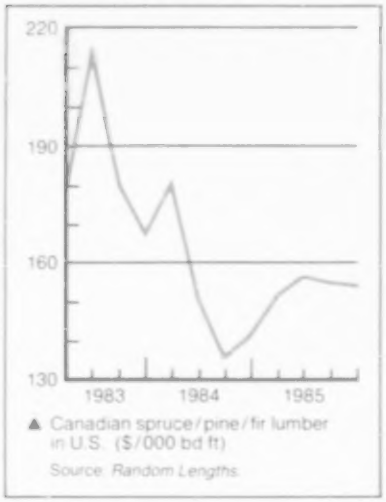
IMPORTANT U.S. CUSTOMERS. It is the paradox of Canadian business that the fate of the country's biggest industries is tied more to developments in the U.S. than to those in Canada. The biggest single factor affecting the profits of Canadian mills is the level of U.S. demand

The downturn in market pulp prices. . .



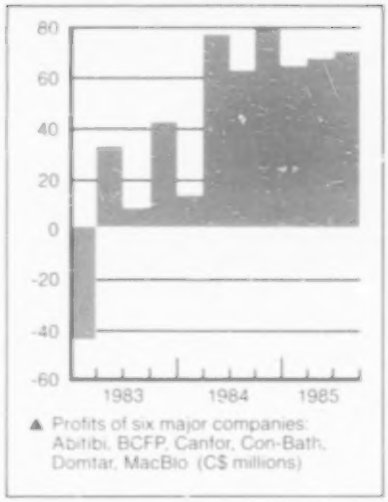
▲ Price for northern bleached kraft pulp delivered in U.S. ($/metric ton)
Source: *P & P Week*

. . . plus continued weakening in lumber prices. . .



▲ Canadian spruce/pine/fir lumber in U.S. ($/000 bd ft)
Source: *Random Lengths*

. . . have hurt profits of Canadian mills



▲ Profits of six major companies: Abitibi, BCFP, Cantor, Con-Bath, Domtar, MacBlo (C$ millions)

for market pulp, newsprint, and uncoated groundwood paper; overseas demand for pulp and newsprint are also of crucial importance.

In market pulp, Canadian mills will find that the oversupply that plagued markets in 1985 is continuing this year. Growth in market pulp consumption will probably not be strong enough to absorb all of the new capacity brought onstream during the 1984-85 period. This will mean that producers in Canada will continue to take periodic downtime to keep inventories under control and prevent further erosion in prices. The recent decline of the dollar should help, however, by reducing much of the cost advantage of Scandinavian competitors. Increased hardwood supplies (eucalyptus) from countries like Portugal, Brazil, and South Africa will keep pulp markets competitive.

Prospects for Canadian newsprint mills are not bad, if a 92% operating rate is any indicator. On the other hand, prices are weak and not likely to head up during first-half 1986. Mills will consider themselves lucky to have set the stage this year for real price increases in 1987. And Canadian mills continue to have trouble overseas, suffering a major loss of market share in Europe and experiencing the same dramatically low prices in the Far East that have bothered mills from other areas.

Uncoated groundwood will not match newsprint in terms of operating rates, but supplies are more in balance with demand and prices are not under as much pressure as they are in the newsprint market. Nevertheless, uncoated groundwood mills have suffered from the ready availability of LWC and will continue to be hurt by competition from LWC if the U.S. economy does not turn in a very healthy performance.

NEWSPRINT

DEMAND STEADY, PRICES WEAK

■ Nothing will come easily for North American newsprint producers in 1986, but if the industry gets enough breaks it should be able to raise prices once during the year. This depends on so many lucky developments, however, that the majority of executives are not optimistic. They also worry about how low the average price will drop before recovery sets in.

U.S. mills will enjoy a modest increase in operating rates in 1986, to a projected 95.5% of capacity from an estimated 94.1% in 1985. Canadian mill operating rates will change very little, dropping to 91.7% from 92.0%.

For both countries, however, those modest-to-good operating rates mask a soft market which is likely to get softer as the year goes on, at least until the autumn months. For mills selling to the U.S. market, the problem is not volume, but prices.

With the North American industry running at better than 92% capacity through most of 1985, executives could point to a market that was in rough balance. For example, one marketing chief noted that North American mills produced about 1.127 million metric tons in September 1985. Imports added 25,000 tons, for a total of 1.152 million tons. But, he estimated, total demand on North American production in that month was 1.164 million tons.

While the industry has certainly enjoyed a strong two years (1984 and 1985) in terms of production, that same executive estimates that the three biggest Canadian companies—Abitibi-Price Inc., CIP Inc., and Consolidat-

ed-Bathurst Inc.—took 97% of the announced downtime in Canada during the first ten months of the year. Thus, the other companies were enjoying full-out operating conditions at the expense of their big competitors. Such a situation could not be expected to last long.

Indeed, that imbalance was reflected in a steady weakening of prices throughout the year. As 1985 got under way, prices east of the Rockies were arguably below $500/metric ton on average ($535 was average list). By end-1985 it was nearly impossible to guess at an average price, with quotes available below $400 from a very few suppliers—notably South Africa's Mondi Paper Co. Ltd., in the case of Rupert Murdoch's *New York Post*.

Large buyers were probably getting discounts of 10% or more from most suppliers and were certainly being offered deals that directly or indirectly brought the price down below $450 in some cases.

West of the Rockies, prices started the year at $535/metric ton, less 5% for customers taking contracted amounts, or an effective list of $508.25; volume discounts were subtracted from the $508.25. By the end of the year mills had announced reductions in the effective list of a further 5% for contract customers.

EXCESS CAPACITY. The key factor in this progressive erosion of prices throughout the U.S. was the fact that North American capacity in 1985 was about 1.1 million tons higher than demand on that capacity. This gap is expected to remain largely unchanged in 1986—although capacity will show little increase—and, until pared by increased demand or permanent shutdowns, will continue to act as a depressant on prices.

On top of that, imports, at about 300,000 tons, are expected to remain unchanged in 1986. Overall U.S. demand is expected to increase only 1.5% while Canadian demand grows just 2.4%. Unfortunately, North American exports are not likely to increase in 1986 either. At most, then, 1986 will be a year in which the industry will set the stage for price recovery in 1987. (Interestingly, Magnus Diesen of Jaakko Pöyry Oy at *Pulp & Paper's* Second Uncoated Groundwood Papers Conference held in New York in November 1985, said that he expects to see North American newsprint consumption rise by just 400,000 tons between 1984 and 1990—to 12.9 million tons from 12.5 million tons. He concluded that "newsprint demand and supply are likely to be roughly in balance during the second half of the 1980s" unless new capacity expansions upset the balance.)

While 1986 is likely to be a year of very gradual firming, it will have its difficult moments. Advertising expenditures during the year are expected to show little growth. The first quarter in particular should prove very weak from paper producers' point of view. While North American mills were producing at a good rate in the fourth quarter, they were doing so by cutting prices. Going into the seasonally weak first period, it seems unlikely that mills will be able to reduce prices enough to avoid substantial downtime.

One of the problems mills will face in the first quarter is the high level of customer and mill inventories. Customers, for example, had 1.526 million tons of inventory on hand at the end of September, or 44 days of supply at current rates of consumption. With capacity in excess and price deals readily available, publishers are likely to slash inventory in the first quarter—which means mill operating rates will suffer.

PRICE HIKE "DOOMED." Brian Topp, an analyst at Toronto-based Midland Doherty Ltd., believes, however, that "Canadian industry giants will once again insist on announcing another newsprint price increase for Apr. 1," a hike that he describes as "doomed to fail." In his view, the likely oversupply of paper "should preclude any U.S. price increase until late in 1986 or even early 1987." Topp also feels the Canadian dollar may undergo a de facto devaluation in the coming year, which would undermine Canadian mills' argument of the financial necessity of a price increase.

But some analysts imagine a scenario in which the U.S. dollar drops far enough against European currencies to cut the ground from under importers. That, in turn, begins to help the U.S. economy, spurring advertising and hence, paper demand. By the second half of the year, then, demand is growing at a 3% to 5% rate. Strengthening demand, plus the financial pain felt by mills in the first half due to continued discounting, begins to shift the balance of power from publishers to mills. Sometime between July and October average prices start to rise, setting the stage for strong price improvements in 1987.

The possibility of a price increase by October 1986 is a real one, but the above scenario ignores several facts. A demand increase of 3%—double the projected rate—would absorb only about 350,000 tons of unused capacity—a far cry from the existing oversupply. Further, this kind of expansion in the economy is beyond that projected by the large majority of economists (which is not,

TABLE 4: **North American newsprint supply/demand balance (000 metric tons).**

	1985e	1990f
North American consumption	12,700	14,100
North American shipments overseas	1,630	1,700
Imports from overseas	300	300
Total demand*	**14,030**	**15,500**

e = Estimate, f = Forecast.
*Total demand = North American consumption + North American shipments overseas − Imports from overseas.

TABLE 5: **North American newsprint capacity (000 metric tons).**

	Canada	U.S.	Total
1985	9,835	5,020[1]	**14,855**
1987	10,100	5,125	**15,225**

1. Effective capacity
Source: Presentation by David Wilson of Canadian Pulp & Paper Assn. to newspaper industry forum in Dallas, Texas, October 1985.

in itself, an argument against the scenario).

The most optimistic scenario, however, ignores developments in lightweight coated (LWC) paper and supercalendered uncoated groundwood, where capacity increases in North America and Europe are likely to create a severe oversupply in 1987 and 1988, enabling customers—such as the commercial printers who use a substantial share of North America's newsprint capacity—to upgrade their paper use. Any optimistic scenario for newsprint which is not accompanied by significant newsprint capacity shutdowns in the next few years is simply voodoo forecasting.

UNCOATED GROUNDWOOD

SOLID, UNSPECTACULAR GROWTH SEEN

■ Uncoated groundwood mills in North America suffered from the increased availability of coated paper in 1985 as advertisers continued to prefer the highest possible quality in four-color reproduction. With the economy still growing and uncoated groundwood capacity not rising rapidly yet, 1986 should see an improvement in operating rates for much of the year—although 1986 might also be remembered as the calm before the storm.

If uncoated paper mills suffer when coated paper supplies are loose, it is worrisome to consider the effect of a jump of 24% between 1985 and 1988 in North American coated groundwood capacity. This is the magnitude of the increase forecast by Robert L. Johnson in his remarks before *Pulp & Paper*'s Second Uncoated Groundwood Papers Conference in New York in November 1985. (Johnson was referring to a study he made as an independent consultant before joining Abitibi-Price Sales Corp. as senior vice president of marketing.)

And this was on top of a 70% rise in North American supercalendered (SC) paper capacity projected by Johnson for the same period. Clearly the rough balance that is expected for the market in 1986 will not last forever.

Some observers noted that Finnish companies are working to develop a product which one analyst calls a "coated No. 6," falling between No. 5 and SC in both quality and price. Such a product would clearly complicate the marketing task of uncoated groundwood and LWC producers trying to sell new capacity.

There could be mitigating circumstances, however. Magnus Diesen of Jaakko Pöyry Oy told the Uncoated Groundwood Conference that "the low consumption level [of SC] in North America certainly includes some potential for growth." He expects North American demand for SC to rise from about 600,000 metric tons in 1984 to 900,000 metric tons in 1990—a period in which machine-finished (MF) uncoated groundwood consumption will actually drop modestly. He also noted that projections of a coming oversupply of coated paper could be flawed, as were similar forecasts in the early 1980s.

Whatever happens in the late 1980s, conditions won't be all that bad in 1986. By one executive's estimate, North American uncoated groundwood paper mills will run at 89% of capacity in 1986, up from 87% in 1985. He believes North American shipments will rise by about 6% in 1986 after the 3% drop in 1985. His 1986 projection is more optimistic than many, but it seems likely that demand will at least return to 1984 levels.

SUNDAY MAGAZINE REVIVAL. Strong areas for uncoated groundwood will include inserts plus a possible revival in the recently moribund Sunday magazine business. Both SC and MF mills will enjoy healthy years in their insert business, although advertising expenditures in general are expected to grow slowly this year. And as Paul Koessler, president of Greater Buffalo Press, said at the Uncoated Groundwood Conference, the recent 10%/year growth rate in inserts "is beginning to level off a little because retailers are getting more sophisticated at segmenting their runs."

The recent move of several newspapers in California to upgrade the paper quality and sharpen the image of their Sunday magazines could spread to other regions this year. While these publications have opted for coated groundwood in their magazines—something that other publishers will do as well—many newspapers are expected simply to upgrade within the uncoated spectrum.

For example, Sunday magazines that have been printed on newsprint or standard rotonews may go up to premium rotonews, supercalendered rotonews, or clay-filled SC. Whether this will benefit or hurt the uncoated groundwood industry as a whole remains to be seen.

FERMENT IN DIRECTORY PAPER. This will also be an exciting year in directory paper. As Robert Kaiser, manager of paper, printing, and distribution for BellSouth National Publishing, told the Uncoated Groundwood Conference, the former Bell telephone companies are developing a number of new directory products as well as invading each other's territories and modifying existing products. BellSouth, along with others, is testing lighter-weight papers, and Kaiser feels 20-lb (24 × 36 basis) paper will soon be the standard for white directory sections instead of 22.5-lb paper. Because of the move to lighter sheets, Kaiser also feels flexographic printing may catch on some years down the road.

Even with the innovation among the phone companies, however, Kaiser feels paper consumption among the former Bell companies will only grow at a rate of 2% to 3%/year from the present 375,000-short-ton level for the next one to three years. But the independents, using about 175,000 tpy of groundwood papers currently, are where the real growth in paper consumption lies.

In mid-1986 Reuben H. Donnelley Corp. will begin competing in the Pennsylvania telephone directory market, using 25,000 or 30,000 tons of paper and helping the independent sector to a growth rate of perhaps 20% for a

year or so. After that Kaiser expects the independents to settle down to a percentage growth rate in the "high single-digit or low double-digit range."

MODEST CAPACITY GROWTH. In addition to some exciting prospects in the end-use area, the industry can look forward to a year in which capacity will not rise faster than demand. API expects a net reduction in U.S. capacity of 19,000 tons, while the Canadian Pulp & Paper Assn. projects an increase in Canadian capacity of 116,000 short tons. The result will be a 3.5% increase in official North American capacity figures.

But there will also be shifts within the uncoated groundwood spectrum. By late 1985 or early 1986, Abitibi-Price Inc. was expected to begin making unfilled SC on the 45,000-tpy No. 6 machine at its Kenogami mill in Jonquière, Que. By 1988, Abitibi will be making a total of 155,000 tpy of clay-filled SC offset. By early 1987, CIP Inc. will add about 35,000 tpy of unfilled SC capacity at its Trois Rivières, Que., mill. Robert Johnson also listed Consolidated-Bathurst Inc. among those companies expected to be adding significantly to SC capacity by 1988. And one West Coast company is studying an upgrade to produce unfilled SC.

Meanwhile, two big LWC machines will come onstream around mid-1986 in North America, making any improvement in LWC prices somewhat problematic. It is unlikely that uncoated groundwood prices will rise in the absence of any LWC hike, so producers will probably spend 1986 trying to firm up prices to where they were at the start of 1985. Anything more depends on a stronger performance by the U.S. economy than most expect.

MARKET PULP

ANOTHER DIFFICULT YEAR

■ Barring another major labor disruption in British Columbia, 1986 will be another difficult year for North American market pulp producers, with only modest improvement likely in prices. But the intermediate-run outlook becomes brighter due to an absence of major expansion projects until 1990 and the integration of some U.S. market pulp capacity into white paper production.

Chemical paper-grade market pulp demand in 1985 was reasonably healthy, with North American and Scandinavian shipments up close to 1%. Another small increase is possible this year. "Growth in the large U.S. and western European markets is projected to plateau at 1984 levels through 1986," Fred G. Robertson, president of Mead Pulp Sales Inc. told security analysts last fall. "Demand is predicted to increase modestly in Japan, China, and other Far Eastern markets, but not enough to offset the projected increases in capacity."

The additional capacity has been coming from the startup of eight major new market pulp mills over the 1984-85 period with almost 1.8 million metric tons of capacity. Included are three mills in the U.S. and one each in Finland, Guatemala, Austria, Portugal, and South Africa, Robertson noted. In addition, two large mills have recently begun production in Czechoslovakia, with part of their shipments targeted for western Europe.

The world practical maximum chemical paper-grade market pulp capacity has risen from 24.2 million tons (excluding eastern Europe and China) at the end of 1983 to 25.8 million tons by 1985, according to American Paper Institute data. API has estimated that the practical maximum capacity ratio of 92% in 1983 and 1984 will drop to 90% in 1985 and 89% in 1986, Robertson said.

PRICE PRESSURE. Except for a surge in the first half of 1984, the oversupply has kept pulp prices under pressure. The benchmark price of northern bleached softwood kraft (NBSK) delivered in Europe showed only modest improvement through 1983 from the low reached in the 1982 recession of around $410/metric ton. The price then climbed sharply in the first half of 1984 to $540/metric ton during the two-month British Columbian labor dispute.

Since then the trend in prices has been mostly downhill, with the dollar price in Europe falling to about $390/metric ton in the second quarter of 1985 and staying around that level. Under the EEC pulp price-fixing settlement in 1984, North American mills must sell at least half of the pulp they sell in Europe in local currencies. For a while, this edict had the unintended effect of improving realizations of North American pulp suppliers as the dollar began to drop. But producers were not able to hold local currency price levels in the oversupplied market—and recently deutsche mark, franc, and lire prices have tended to equal the dollar price.

The downward price trend has been similar in North America, with the list price for NBSK dropping to $425 last August. Prices in the Far East showed some modest improvement during the summer months from more deeply depressed levels but then gave way again in the fall. Most industry observers believe that prices in the fourth quarter were scraping along the bottom since, as one agent put it, "if they went any lower, someone would crack."

GROWTH OF EUCALYPTUS. One positive effect of the decline of the U.S. and Canadian dollars against the currencies of most industrialized countries is that it has reduced the cost advantage held by Scandinavian producers. Most Swedish and Finnish market pulp mills are now believed to be close to or below the break-even level and this should increase their willingness to take downtime and fight for higher prices.

The problem is that now about 37% of the world pulp supply comes from outside the Norscan region. Producers in countries like Brazil, Portugal, Spain, South Africa, and Chile in many cases still have a significant cost

advantage due to weak currencies. And as a rule, these producers seldom take downtime since they must earn foreign exchange, provide jobs, etc. Much of this new production is eucalyptus pulp, which has grown from 400,000 tons in 1976 to an estimated 2.8 million tons in 1985, according to Ross Hay-Roe of *PaperTree Letter*. Such pulp has become well accepted in Europe and has begun entering North America in growing quantities.

MORE DOWNTIME. Norscan producers are expected to take more downtime around December and early spring to keep pulp inventories close to or below the 1.5-million-ton level. The downtime plus some restocking of low customer inventories in anticipation of British Columbian labor negotiations this summer may give producers an opportunity to raise prices in the second quarter. But as Midland Doherty's analyst Brian Topp noted, "Even if prices recover to $425 to $450/metric ton, average prices for 1986 are unlikely to change from 1985 levels for Canadian mills."

The real improvement in market pulp prices will probably begin in 1987—if there isn't a recession—as supply and demand finally come into better balance. U.S. market pulp capacity will begin to decline due to new white paper machines being installed at market pulp mills owned by companies such as Georgia-Pacific and Hammermill. No major market pulp expansions are planned in other parts of the world until 1990 when Aracruz Cellulose and other Brazilian producers may embark on another major round of expansion. ■

LABOR

FOCUS ON BRITISH COLUMBIA, U.S. SOUTH

British Columbia will again be the focus for labor negotiations in the Canadian pulp and paper industry in 1986. Not only will the province hold the greatest concentration of Canadian mills with contracts expiring in 1986, but the practice of joint-industry bargaining might be ended there after nearly three decades.

In the U.S., approximately 144 mills will be negotiating new labor agreements in 1986 (see table p. 66). The South leads the other regions in bargaining activity this year, having 59 mills with contracts expiring in 1986. The Midwest has 44; the East, 21; New England, 11; and the West Coast, 9 contracts.

Reducing labor costs and increasing productivity will be the basic concerns of the industry as labor and management meet at the bargaining table this year, in both Canada and the U.S.

Richard P. Klinzing, vice president of employee relations for the American Paper Institute, expects that U.S. companies will be seeking to increase operator and maintenance flexibility, eliminate holiday production restrictions, and continue restraints in wage increases and health care costs.

WAGE SETTLEMENTS DECLINE AGAIN. In 1985, the overall average wage settlement for all regions of the U.S. was a 2.6% increase compared with 3.3% a year earlier. New England averaged 2.6% in 1985 compared with 4.9% in 1984; the East, 3.3% vs 4.3%; the Midwest, 3.6% vs 4.6%; the South, 3.3% vs 5.3%, and the West Coast was down 1.1% vs down 0.9%.

In addition to moderating wage rates in recent years, U.S. mills have also reduced the number of strikes annually. For 1985, there were only eight walkouts compared with 15 in 1984.

The effect of individual strikes has been lessened also. In recent years, more companies have been operating mills with supervisory staff while unionized employees are walking the picket lines. This not only has enabled mills to maintain orders and defray costs, but has also undercut labor's power at the bargaining table.

Since the early part of this decade, the paper industry has begun to reduce its labor costs through modernization, more flexible policies in operating mills and using manpower, and reduced employee pay and benefits.

Julian Kien of Kien Associates Inc., New York, N.Y., asserts that since 1960 the pulp and paper industry's average hourly earnings have increased three times as rapidly as those of U.S. manufacturing overall.

"Increasingly, as companies seek to be competitive in a worldwide marketplace, cost reductions in labor, as well as in energy, raw materials, etc., is essential," explained Kien.

Kien expects individual company bargaining to produce a range of variations aimed at reducing labor costs. "1986 looks like a heavy bargaining year, with potential for some new and different results emerging from what appears to be a new era of bargaining," said Kien.

WAGES STILL CHIEF ISSUE. Wayne E. Glenn, president of the United Paperworkers International Union, expects wages to be the number one issue in 1986 in the U.S. It's unlikely, though, that the increases will be higher than in 1985, he said, noting that continued competition from worldwide producers is likely to "cut into the number of jobs in the U.S. paper industry."

"This, in turn, will make it difficult for our union

TABLE 6. **Major contracts by region on 1986 U.S. paper industry bargaining calendar.**

Company	Mill location	Union	No. of employees	Contract expires
Southern region				
Allied Paper	Jackson, Ala.	U	421	8/1
Augusta News.	Augusta, Ga.	U	259	7/28
Bowater	Catawba, S.C.	U	721	10/30
Brunswick	Brunswick, Ga.	U	748	7/31
Buckeye	Foley, Fla.	U	777	3/14
Champion	Courtland, Ala.	U	1,170	6/15
Champion	Houston, Texas	U	442	12/31
Champion	Lufkin, Texas	U,A,B	858	6/30
Champion	Pasadena, Texas	U	1,057	5/30
Champion	Roanoke Rapids, N.C.	U	474	8/31
Container Corp.	Fernandina Beach, Fla.	U,A,B	587	5/31
Federal	Richmond, Va.	U,O	124	11/30
Federal	Riegelwood, N.C.	U	1,186	9/8
Georgia Kraft	Macon, Ga.	U,A,B	462	8/27
Georgia Kraft	Mahrt, Ala.	U	300	10/31
Georgia Kraft	Rome, Ga.	U,A,B,O	580	8/27
Georgia-Pacific	Palatka, Fla.	U,A,B	1,319	5/31
Georgia-Pacific	Pryor, Okla.	U	113	8/15
Gilman Paper	St. Marys, Ga.	A,B,U	791	6/6
Great Southern	Cedar Springs, Ga.	U,B	660	9/30
Gulf States	Demopolis, Ala.	U	394	1/6
Hammermill	Selma, Ala.	U, (B, exp. 7/5)	310	3/5
Inland Container	New Johnsonville, Tenn.	U	145	10/31
Intl. Paper	Bastrop, La.	U,B	934	2/1
Intl. Paper	Georgetown, S.C.	U,A,B	693	5/31
Intl. Paper	Pineville, La.	U	227	10/10
Interstate Paper	Riceboro, Ga.	U	214	10/26
James River	Naheola, Ala.	U,B	1,380	10/31
Jefferson Smurfit	Jacksonville, Fla.	U,B	267	6/30
Kimberly-Clark	Coosa Pines, Ala.	U,A,B,O	1,163	9/14
Kimberly-Clark	Memphis, Tenn.	U	1,043	7/31
Manville	West Monroe, La.	U	686	6/30
Mobile	Mobile, Ala.	U	120	9/2
Nekoosa Papers	Ashdown, Ark.	U	1,045	11/1
Owens-Illinois	Valdosta, Ga.	U,B	356	9/15
Potlatch	McGehee, Ark.	U	242	7/31
Rock-Tenn	Dallas, Texas	U	163	1/31
Scott	Mobile, Ala.	U,B	2,664	5/31
Stone Container	Florence, S.C.	U	443	10/31
Stone Container	Hodge, La.	U	575	6/30
Stone Container	Pt. Wentworth, Ga.	U,A,B,O	327	6/19
Temple-Eastex	Evadale, Texas	U,B	840	7/31
Union Camp	Montgomery, Ala.	U	486	10/31
Union Camp	Savannah, Ga.	U,A,B,O	1,363	5/31
Westvaco	Covington, Va.	U (B, exp. 3/1/87)	1,008	11/30
Westvaco	Luke, Md.	U (B, exp. 3/1/87)	1,374	11/30
Westvaco	Wickliffe, Ky.	U	343	7/1
Weyerhaeuser	New Bern, N.C.	U	362	12/19
Weyerhaeuser	Pine Bluff, Ark.	U	157	8/17
Weyerhaeuser	Plymouth, N.C.	U,O,B	1,434	7/31
Weyerhaeuser	Valliant, Okla.	U	304	11/19
Willamette	Campti, La.	U	203	11/15
Willamette	Hawesville, Ky.	U	440	8/31
Eastern region				
Champion	Deferiet, N.Y.	U,O,A	705	5/1
Champion	York, Pa.	U	197	9/22
Container Corp.	Philadelphia, Pa.	U	294	6/19
Crown Z	S. Glen Falls, N.Y.	U	285	10/1
Finch, Pruyn	Glens Falls, N.Y.	U,A,B,O	366	6/15
Georgia-Pacific	Reading, Pa.	U	88	8/1
Hammermill	Erie, Pa.	U	1,226	6/10
Hammermill	Oswego, N.Y.	U,A,B,O	140	8/1
Packaging Corp.	Plattsburgh, N.Y.	U	132	8/1
Penntech	Johnsonburg, Pa.	U	565	4/10
Potsdam Paper	Potsdam, N.Y.	U	110	3/1
Simpson Paper	Miquon, Pa.	U	236	2/14
Sonoco	Downingtown, Pa.	U	111	2/24
Midwest region				
Appleton Papers	Combined Locks, Wis.	U	510	6/30
Appleton Papers	W. Carrollton, Ohio	U	295	9/1
Blandin Paper	Grand Rapids, Minn.	O	976	7/1
Champion	Hamilton, Ohio	U	1,453	9/14
Champion	Sartell, Minn.	U	424	6/1
Container Corp.	Circleville, Ohio	U,O	97	6/19
Container Corp.	Wabash, Ind.	U	217	6/19
Crown Z	Baltimore, Ohio	U	84	9/26
Dunn Paper	Port Huron, Mich.	U	192	6/1
FSC Paper	Alsip, Ill.	U	108	10/28
P.H. Glatfelter	Neenah, Wis.	U	363	8/1
Hammermill	Kaukauna, Wis.	U	1,261	7/31
James River	Green Bay, Wis.	U	923	4/30
James River	Parchment, Mich.	U	1,093	7/23
Jefferson Smurfit	Lockland, Ohio	U	230	11/1
Keyes Fibre	Hammond, Ind.	U	191	6/16
Manistique	Manistique, Mich.	U	155	6/15
Mead	Escanaba, Mich.	U,B	1,110	5/31
Mead	Otsego, Mich.	O	192	6/1
Menominee	Menominee, Mich.	U	274	4/30
Packaging Corp.	Filer City, Mich.	U	295	5/11
Packaging Corp.	Rittman, Ohio	U	263	5/1
Plainwell Paper	Plainwell, Mich.	U	311	11/30
Pentair	Detroit, Mich.	U	189	4/30
Pentair	Port Huron, Mich.	U	215	7/31
Potlatch	Brainerd, Minn.	U	576	6/15
Potlatch	Cloquet, Minn.	U,O	894	6/15
Procter & G.	Cheboygan, Mich.	U	330	9/25
Procter & G.	Green Bay, Wis.	U	1,400	4/31
Scott	Muskegon, Mich.	U	744	6/15
Shawano Paper	Shawano, Wis.	U	180	5/5
Union Camp	Monroe, Mich.	U	120	7/20
Weyerhaeuser	Rothschild, Wis.	U	395	6/1
Wisconsin Tissue	Menasha, Wis.	U	696	6/30
New England region				
Boise Cascade	Rumford, Maine	U	1,355	6/30
Millers Falls	Millers Falls, Maine	U	100	7/30
Monadnock	Bennington, N.H.	U	115	9/1
Sonoco	Holyoke, Mass.	U	105	6/26
Strathmore	Turners Falls, Mass.	U	94	6/30
	Wornoco/Westfield, Mass.	U	413	6/30
Pacific Coast region				
Container Corp.	Los Angeles, Calif.	U	111	6/1
Container Corp.	Santa Clara, Calif.	O	103	6/16
Crown Z	Camas, Wash.	W	1,889	5/31
Garden State	Pomona, Calif.	U	108	4/30
Louisana-Pacific	Antioch, Calif.	W	298	8/14
Port Townsend	Port Townsend, Wash.	W	402	5/31

Legend: U = United Paperworkers International Union; W = Assn. of Western Pulp & Paper Workers; A = International Assn. of Machinists & Aerospace Workers; B = International Brotherhood of Electrical Workers; O = Others.

Source: American Paper Institute Employee Relations Dept.

members to negotiate the wages and benefit increases they need to maintain a decent standard of living," said Glenn.

Kien said that the U.S. paper industry in 1986 will continue to negotiate contracts based on product line rather than on geographic location. Another factor that is likely to affect bargaining is the consolidation of the industry through mergers, takeovers, and other ownership changes.

According to an industry labor relations executive at a large paper company, industry leaders are likely to begin to examine more closely such expenses as premiums paid for working unusual shifts, such as Sunday work and wire time and unusual positions in the mill.

CANADIANS WANT JOB SECURITY. While wages may still be a major concern to U.S. unions, unemployment and job security are expected to be the key bargaining issues in the British Columbian industry, according to Donald A. Saunders, chairman and CEO for Forest Industrial Relations Ltd. and the Pulp & Paper Industrial Relations Bureau.

FIR and the PPIRB have acted as bargaining agents for the forestry and primary sectors of the industry for the past three decades, but that could change this year as a result of negotiations between industry and unions on possibly breaking up or modifying in some way the practice of joint industry bargaining.

With unemployment in British Columbia at more than 13% late last year, workers are likely to be more concerned with keeping their jobs than in improving them, observers indicated. The Conference Board of Canada indicated last fall that it expected pulp and paper to be among the industries settling at the "lower end of the scale" of pay increases, which are projected to average 3.8% this year.

In the current three-year contract which expires on June 30, wages in the British Columbian industry were frozen in the first year and increased 4% to 4.5% in the last two years. Since the last contract, though, the industry has not been able to recoup the losses incurred when the market turned down in 1981. This is likely to leave the union negotiators without much leverage in talks this year.

"Two years ago, the British Columbian industry lost a billion (Canadian) dollars before taxes and we still have not recovered from that financial blow," said Saunders. He explained that the industry is in heavy financial debt and requires even more capital to invest in needed modernization to enable it to remain competitive.

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ROOFING INDUSTRY UPHEAVAL STILL ON, AND NO REBOUND IS EXPECTED SOON

While it is considered a superior product, fiberglass mat has undercut profits in the roofing industry proportionate to its share of the market

By DEBRA A. ADAMS, Senior News Editor

The infiltration of fiberglass mat into the roofing industry in less than a decade has inadvertently caused significant overcapacity that has sent that market into a tailspin and caused an upheaval that is expected to continue for some time. Restructuring on a grand scale has been accomplished in just a few short years, but it will take more shutdowns to bring the industry back into shape, observers indicate.

While generally viewed as a superior product, by both the manufacturer and the consumer, fiberglass shingles have not been kind to industry profits. As more and more capacity has been converted over from organic felt, and new facilities have come online since the late 1970s, prices have continued to decline, forcing more plants to close in an effort to firm the market.

At least 25 fabrication plants have closed within the past decade, according to industry analyst Jonathan Goldfarb, of Merrill Lynch. Yet capacity has not been reduced significantly because converting to fiberglass mat results in substantial increases in capacity due to better running times and other benefits.

Industry observers say that as much as 90% of market share now belongs to fiberglass. That compares with just 5% in 1979, according to Goldfarb, who puts the current estimate at "over 75%."

The stampede to switch to fiberglass appears to have been a nearsighted decision, and companies apparently did not consider its far-reaching effects. Fiberglass became more popular with consumers in the 1970s because of its longer life (25 years vs 20 years for paper-based shingles) and higher fire retardant capabilities. For the manufacturer, fiberglass cut production cost because it required less asphalt and other materials and increased machine speed, raising output greatly.

Organic mat must first be saturated with one type of asphalt, then coated (sealed) with another type. Fiberglass mat does not require saturation, which is a time-consuming process, it requires only sealing. Production lines, therefore, can run 30% to 35% faster with fiberglass mat than with organic felt, Goldfarb estimated.

The frenetic switch to fiberglass shingles might have had far less disastrous effects on industry margins had it come when the housing industry was booming, but in the early 1980s, construction activity slowed down.

The industry has not maintained the 1978 peak of 2.30 million new housing starts and is not expected to do so for the rest of the 1980s (Table 1). Instead, housing starts began dropping in 1979 and have been as low as 1.06 million units in 1982, according to Dept. of Commerce figures. At the lowest point, some roofing facilities ran at less than 40% of capacity, observers said.

SHINGLE SHIPMENTS IMPROVING. Strip shingle shipments suffered proportionately, falling to 54.77 million squares in 1981, improving to 72.51 million squares in 1983 and 74.96 million squares in 1984, according to Dept. of Commerce statistics (see table).

Since 1982, building activity has been stepped up somewhat, with housing starts in 1984 reaching 1.750 million units. For 1985, however, the National Assn. of Home Builders, Washington, D.C., forecasted housing starts would drop to 1.650 million units and would fall again to 1.550 million units this year. Goldfarb, however, felt housing activity would reach 1.75 million units in 1985 and would remain flat this year.

As the market eroded in the face of falling demand and rising capacity, more and more facilities were closed indefinitely or permanently, and many were sold. Ownership changed hands more frequently as the market fell further. And although the past two years have seen

TABLE 1: **Roofing industry market indicators.**

Year	Strip shingle shipments (000 squares)	New housing starts (000 units)	Wastepaper consumed* (000 short tons)
1978	75,960	2,023	1,793
1979	76,630	1,749	1,794
1980	59,900	1,292	1,543
1981	54,770	1,084	1,342
1982	57,570	1,062	1,055
1983	72,510	1,703	1,126
1984	74,960	1,750	1,124
1985e	—	1,650-1,750	1,136
1986e	—	1,550-1,750	1,190
1987e	—	—	1,190

*Represents total construction paper and board consumption of wastepaper. e = Estimate.
Sources: Dept. of Commerce and American Paper Institute.

some improvement, the transition is far from over.

As recently as early last year, Bird Inc. sold off all but one of its roofing facilities to Genstar Corp. This included two roofing felt mills in Shreveport, La., and Charleston, S.C., as well as five converting plants. Bird kept its northeastern facilities, though. Two of those mills—in Phillipsdale, R.I., and Norwood, Mass.—were closed, dismantled, and the land sold. However, a third fiberglass shingle converting operation was opened early in 1985 in East Walpole, Mass., at a cost of $12 million.

In the deal with Genstar, Bird also retained the right to sell products from its former facilities under its own brand name. In addition to these products it will also sell services, adding to the value of the transactions.

More companies have been selling higher-quality products or additional services with their goods in an effort to raise margins that have suffered significantly from low roofing prices in recent years. Goldfarb notes the "market acceptance in recent years of roofing products which are upgraded with respect to textures, depth and dimension, color patterns, laminated construction, and so forth. Those products are generally costlier and more profitable than traditional lines."

But no matter how successful marketing efforts are, it will remain a buyer's market as long as supply exceeds demand. Industry observers generally agree that the single most critical problem in the industry is overcapacity. "The overcapacity situation since 1979 has put this industry in the position where the only survivors are the low-cost producers," said one marketing executive. "The ones that are consolidating or merging are positioning themselves better in the marketplace."

INDUSTRY RESTRUCTURING. As a result of the transaction with Bird, Genstar doubled its capacity and positioned itself among the top three roofing producers, with GAF Corp. and Owens-Corning Fiberglas Corp.

Genstar now owns five primary mills, with three organic felt mills in Portland, Ore. (35 short tpd), Cornell, Wis. (193 tpd), and Shreveport, La. (235 tpd), and two others in Ennis, Texas, and Charleston, S.C., making fiberglass shingles. It also owns 11 converting operations.

Most major roofing manufacturers, however, have switched over from producing organic felt to producing primarily fiberglass. Celotex Corp., which manufactured paper-based shingles for most of its history, is now 90% fiberglass, the company said.

In 1984, GAF stepped up plans to convert all of its facilities to fiberglass, and it completed the transition during that year. In January 1985, it once again announced a $22.8-million proposal to upgrade its roofing operations, focusing on the Fontana, Calif., fiberglass facility.

Owens-Corning, one of the pioneer manufacturers of fiberglass roofing, is 100% fiberglass. Included in its facilities are organic felt mills that have been acquired and converted. O-C has aggressively invested in fiberglass, even when the roofing market has been distressed.

At a time when most roofing manufacturers have put their major capital improvement plans on hold, Owens-Corning on June 28, 1985, opened up a wet process glass fiber facility in Fort Smith, Ark. In May it completed a new line to double capacity at its Morehead City, N.C., single-ply roofing plant.

A number of its mills were acquired from Lloyd A. Fry Roofing Co. in 1977. Since then, Owens-Corning has shut down or converted all 14 primary and 24 secondary facilities from organic products to fiberglass materials. Presently, the company operates four primary mills in Aiken, S.C., Barrington, N.J., Kansas City, Mo., and Fort Smith, Ark., as well as 18 facilities converting glass fiber mat into residential and commercial roofing materials. Commercial products include roll roofing for single-ply and built-up applications, the company said.

During the past seven years, Owens-Corning has closed or changed the product line at ten secondary roofing plants, closed two primary mills, and halted primary roofing production at the Mishawaka, Ind., mill, which continues to print shingle wrappers. In addition, organic dry felt production at some facilities with primary and secondary operations was discontinued, and the sites now only convert fiberglass roofing materials.

FTC GETS INVOLVED. Four of Owens-Corning's roofing facilities on the West Coast have been on the block since July 1982, when the Federal Trade Commission ruled that they gave the company an unfair competitive advantage in that region. In a recent ruling, the FTC said that O-C had to sell two of these facilities. O-C is appealing the ruling. A newly formed Detroit, Mich.-based company called U.S. Roofing Corp. has bid on the plants.

The sites include two felt mills with converting facilities in Compton, Calif. (75 tpd), and Portland, Ore. (60 tpd), and two converting operations in Woodscross, Utah, and San Leandro, Calif., which have been idled since 1980. The two felt mills in Compton and Portland were also shut down in 1980, although converting operations at the two sites have continued to produce fiberglass shingles. O-C phased out all of its felt operations since 1980, the company said.

"As the change to a glass fiber shingle and investment in capital equipment have extended Owens-Corning's productive capacity, the company has consolidated production into fewer facilities," said Bert E. Elliott, vice president of Owens-Corning's roofing products operating division. "Several other companies have also adjusted to the changes," he said.

Georgia-Pacific Corp. is one of the few larger roofing manufacturers which has not converted to fiberglass mat to any extent. The company's four primary mills in Ardmore (17,000 tpy) and Pryor (30,000 tpy) Okla., Daingerfield, Texas (15,000 tpy), and Franklin, Ohio (52,000 tpy) all make paper-based felt, which is converted into shingles, roll roofing, and saturated felt at its six plants, the company said.

Surprisingly, G-P got into the organic shingle business just as profits began to turn down and fiberglass conversion took off. In 1978, it acquired its first roofing mill in Franklin from Hoerner Waldorf Corp. The following year, it built a converting operation there. In 1981, it bought the Daingerfield and Ardmore mills from Big Chief Roofing Co. and purchased the Pryor mill from CertainTeed Corp. The final purchase occurred in 1983 with the acquisition of the Denver, Colo., converting operation from GAF.

During the past few years, a number of manufacturers have idled or permanently shut down facilities in an effort to firm the market. It is not known precisely how many facilities may eventually be restarted, although one estimate is that about 25 of the 105 roofing plants in operation in 1979 that have been shut down are not likely to restart.

CertainTeed closed two of its ten roofing facilities in September 1981, in Kansas City, Mo., and York, Pa. (which included an 85-tpd felt mill). The York facility was reopened in 1983, but in August 1984 it was idled permanently along with four other facilities in Chicago Heights, Ill., Dallas, Texas, Richmond, Calif., and Tacoma, Wash. Converting plants in Avery, Ohio, and Oxford, N.C., and felt mills in Savannah, Ga. (80 tpd), and Shakopee, Minn. (200 tpd), were kept open.

MANY FACILITIES CLOSED. In September 1981, GAF closed its felt mill (120 tpd) and converting operation in Kansas City, Mo., as well as a plant in Denver, Colo., due to a rapid rise in the cost of asphalt used in roofing and a severe decline in product demand, the company said. In August 1984, it closed its South Bound Brook, N.J., operation and mothballed felt mills and converting operations in Gloucester, N.J. (335 tpd), and Joliet, Ill. (280 tpd). In November 1984, however, the Joliet and Denver sites were sold to Genstar, which planned to renovate and reopen the facilities.

Congoleum Corp. in recent years permanently closed its 100-tpd roofing felt mill in Finksburg, Md., due to high energy costs and the increasing dominance of fiberglass shingles in the marketplace, the company said. The converting operation in Finksburg, however, remained open and continues to convert 4,000 rolls a day.

Surprisingly, the situation in Canada is quite different. Canadians appear to be in no rush to convert to fiberglass. According to one marketing executive, the cost of importing the fiberglass—not widely produced in Canada—makes it more feasible to manufacture organic shingles. In addition, the advantages of fiberglass roofing are not as compelling to the Canadian consumer as to the U.S customer.

"From a marketing/sales point of view, glass shingles have better performance than organic in blistering and curling, but poor performance regarding blow-off and cold weather handling," noted a Domtar executive. "The fire characteristics of both products vs wood shingles or shakes is not important in Canada," he added.

Domtar claims to have a 27% share of the Canadian residential roofing market, with one 80-tpd roofing felt mill in Thorold, Ont., and four converting plants, in Lachine, Que., Brantford, Ont., Lloydminster, Alta., and Burnaby, B.C., the company said.

CANADIAN MARKET DIFFERENT. Like the U.S., Canada's roofing industry has been in a state of transition in the 1980s. In 1983 and 1984, "severe disturbances" in the marketplace occurred, according to one industry observer. Prices and profits have been depressed, and roofing industry overcapacity is most severe in western Canada, a marketing executive said.

The outlook in eastern Canada is somewhat brighter, with improvement expected in the near term due to heavy reroofing demand. Profits and return on investment, though, will remain inadequate, according to a close observer. In addition, more felt mills are expected to close as even Canada feels the demise of the market for organic felts.

The remainder of the 1980s is expected to be competitive, both in Canada and the U.S. Overcapacity and a strong U.S. dollar have caused some eastern Canadian producers to infiltrate the northeastern U.S. market, causing prices there to deteriorate even further.

Prices since 1980 have remained relatively flat, with some producers reporting slight improvement while others are experiencing their lowest levels in five years. The Bureau of Labor Statistics price index for prepared asphalt roofing indicates a decline of about 18% between early 1980 and early 1983.

Prices improved somewhat during the latter part of 1983 and early 1984 but started to erode again late in the year. That deterioration continued in the first half of 1985, with levels off 1% to 2%. Likewise, production was off an estimated 6% to 8% in the first half of last year, and by year-end that could rise to a 10% decline for 1985 overall, observers feel.

Wastepaper demand is likely to decline somewhat with the drop in paper-based roofing production, although by how much is uncertain because no exact figures are kept on use of paperstock in roofing. The American Paper Institute reports that of the 1.126 million short tons of secondary fiber consumed in U.S. construction paper and board mills in 1983, 8.9% was mixed papers, 20.9% newspapers, 30.0% corrugated, 9.0% pulp substitutes, and 1.2% was high-grade deinking.

Observers generally feel the shakeout in the industry will continue for at least another year. Many roofing facilities are expected to shut down, however, before the market can resume its balance. Goldfarb estimates industry capacity is between 10% and 20% too high. "An outside observer could suspect that some large producers might decide to essentially 'write off' the current cycle in hopes of strengthening the overall supply/demand balance for the long term," he noted. ■

CAPITAL SPENDING SURVEY: 1985-87

North American industry spending stays high as competition fuels modernization drive and mills boost capacity in more profitable grades

By CARL ESPE, News Editor

Despite generally poor market conditions in 1985, pulp and paper industry capital spending for the year looks destined to set new records in both the U.S. and Canada. But while money for capital improvements will continue to flow in the U.S., Canadian companies may be ready to tighten the purse strings, according to *Pulp & Paper*'s annual survey of capital spending plans.

P&P's latest survey covers spending plans for the three-year period from 1985 to 1987 and beyond. The results show planned expenditures in the U.S. of $8.56 billion for the three-year period, up 4.0% from $8.23 billion in last year's survey. In Canada, however, spending plans total only C$4.10 billion for the period, down 10.2% from the $4.57 billion reported last year.

Record spending in 1985. U.S. papermakers planned to spend a record $8.21 billion on capital projects in 1985, up 13.9% from the 1984 total of $7.21 billion, according to a Commerce Dept. survey conducted in July and August. Those results indicate a healthy year for capital spending overall, but the news is not all good: the survey also found that the spending increase would taper off as the year progressed. The completion of several major projects after midyear was responsible for part of that decline, but the lower numbers probably also reflect concern about the economy. After adjustment for inflation, real spending was up 16.0% in the first quarter of 1985 and 15.6% in the second, but the Commerce Dept. expected spending to run 11.4% above 1984 in the third quarter and only 7.5% in the fourth.

Canadian paper and allied product companies got more bullish about 1985 capital spending as the year progressed, according to Statistics Canada. When last surveyed, Canadian papermakers reported plans to spend C$1.90 billion in 1985, up 61.6% compared with 1984. That figure represents a 16.5% increase over companies' intentions at the beginning of the year and, if it holds up, will break the old record of $1.86 billion spent in 1982.

Higher U.S. spending in 1986? Bucking the trend in many other industries, U.S. pulp and paper companies plan to boost spending for plant and equipment to a new high of $8.58 billion in 1986, according to McGraw-Hill's annual fall survey of capital spending plans. That would constitute a 9.7% jump over 1985 outlays, which McGraw-Hill estimates will total $7.82 billion.

Among the industries surveyed, the paper industry's planned increase for 1986 is second only to an 18.0% jump for the rubber and plastics sector. Overall, however, U.S. business investment is expected to decline 1.0% in 1986—a bit of a shock, according to McGraw-Hill, because spending usually declines only during or immediately after a recession.

One factor in higher paper industry spending plans may be the long lead time required for major projects, which tends to lock in spending. Another may be the

TEN-YEAR CAPITAL SPENDING TRENDS

YEAR	U.S. TOTAL		CANADA TOTAL	
1985	$8,210	13.9%	$1,629	38.7%
1984	7,210	21.8	1,174	17.5
1983	5,920	−0.8	999	−29.7
1982	5,970	−11.2	1,420	−15.3
1981	6,720	−1.2	1,676	61.0
1980	6,800	22.5	1,041	51.9
1979	5,550	39.1	685	33.6
1978	3,990	10.8	513	−1.6
1977	3,600	15.8	521	6.4
1976	3,110	4.4	490	22.6

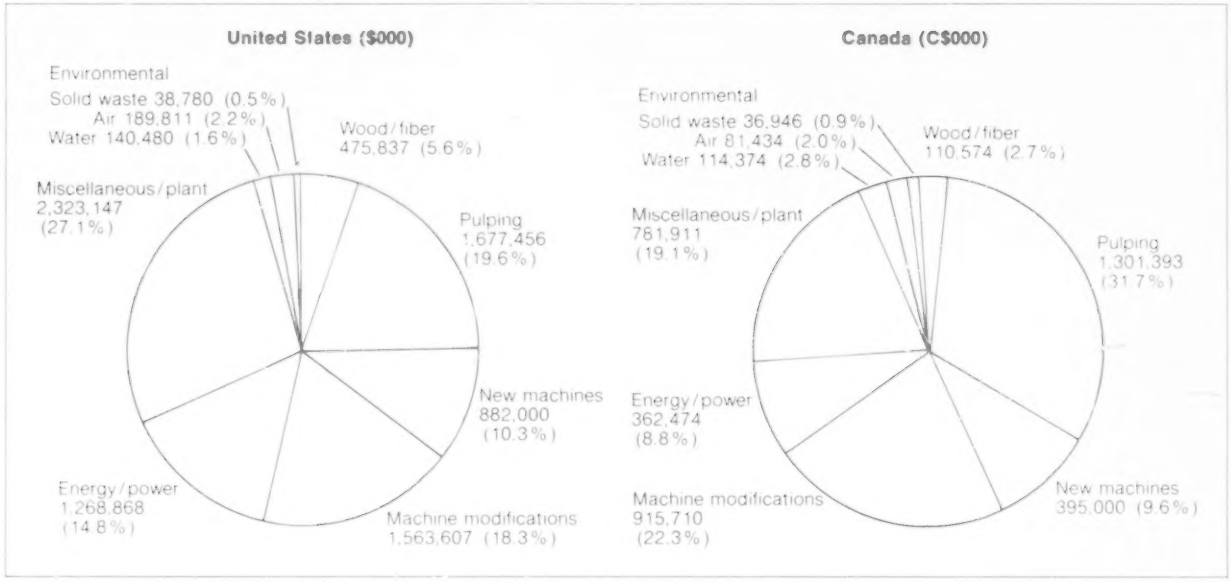
Source: Commerce Dept.; McGraw-Hill Economics; Statistics Canada.

TEN-YEAR U.S. ENVIRONMENTAL SPENDING TRENDS

YEAR	AIR		WATER		SOLID WASTE	
1985	$160	−1.8%	$ 58	−31.8%	$ 34	−20.9%
1984	163	10.1	85	−44.8	43	−54.7
1983	148	55.8	154	25.2	95	30.1
1982	95	−42.4	123	−3.9	73	1,116.7
1981	165	−18.3	128	−29.7	6	−89.9
1980	202	6.9	182	23.8	59	−25.3
1979	189	27.7	147	−0.7	79	1,875.0
1978	148	−20.0	148	−31.5	4	−92.3
1977	185	−25.4	216	−46.5	52	−55.6
1976	248	−37.7	404	72.6	117	1,200.0

1. Environmental spending totals are not available for Canada.
Source: Commerce Dept.; McGraw-Hill Economics; Statistics Canada.

FIGURE 1. **Reported spending by type of facility, 1985-87 +.**



U.S.—REPORTED CAPITAL EXPENDITURES FOR 1985-87 + BY REGION AND TYPE OF FACILITY ($000)

PRODUCTION-RELATED EXPENDITURES

	WOOD/FIBER		PULPING		NEW MACHINES		MACHINE MOD.		ENERGY		MISC./PLANT	
New England	$ —	0%	$ 37,800	2%	$220,000	25%	$ 84,000	5%	$ 138,632	11%	$ 106,300	5%
Mid-Atlantic	—	0%	5,413	0%	—	0%	52,089	3%	134,534	11%	59,028	3%
East North Central	83,000	17%	376,158	22%	70,000	8%	679,923	43%	195,786	15%	224,239	10%
West North Central	35,000	7%	80,000	5%	50,000	6%	7,500	0%	122,600	10%	93,375	4%
South Atlantic	248,437	52%	486,027	29%	322,000	37%	314,927	20%	374,841	30%	665,725	29%
East South Central	82,400	17%	295,200	18%	60,000	7%	200,200	13%	122,200	10%	807,300	35%
West South Central	15,000	3%	208,458	12%	110,000	12%	110,705	17%	108,825	9%	354,351	15%
Mountain/Pacific	12,000	3%	188,400	11%	50,000	6%	114,253	7%	71,450	6%	12,829	1%
Total	**$475,837**		**$1,677,456**		**$882,000**		**$1,563,607**		**$1,268,868**		**$2,323,147**	

ENVIRONMENTAL QUALITY SPENDING — **TOTALS**

	WATER		AIR		SOLID WASTE		PRODUCTION		ENVIRONMENTAL		GRAND TOTAL	
New England	$ —	0%	$ 1,350	1%	$ 1,000	3%	$ 586,732	7%	$ 2,350	1%	$ 589,082	7%
Mid-Atlantic	1,215	1%	500	0%	1,000	3%	251,064	3%	2,715	1%	253,779	3%
East North Central	43,048	31%	49,630	26%	7,000	18%	1,629,106	20%	99,678	27%	1,728,784	20%
West North Central	28,077	20%	34,863	18%	5,000	13%	388,475	5%	67,940	18%	456,415	5%
South Atlantic	48,000	34%	63,200	33%	21,250	55%	2,411,957	29%	57,450	36%	2,544,407	30%
East South Central	695	0%	620	0%	530	1%	1,567,300	19%	1,845	0%	1,569,145	18%
West South Central	6,440	5%	29,800	16%	1,500	4%	907,339	11%	37,740	10%	945,079	11%
Mountain/Pacific	13,005	9%	9,848	5%	1,500	4%	448,942	5%	24,353	7%	473,295	6%
Total	**$140,480**		**$189,811**		**$38,780**		**$8,190,915**		**$369,071**		**$8,559,986**	

1. Includes $1,032,700,000 for projects for startup in 1988 and after ($1,031,200,000 production; $1,500,000 environmental).

States are assigned to regions as follows:
New England: Maine, Vt., N.H., Conn., R.I., Mass.
Mid-Atlantic: N.Y., N.J., Pa.
East North Central: Wis., Mich., Ill., Ind., Ohio
West North Central: N.Dak., S.Dak., Nebr., Kans, Minn., Iowa, Mo.
South Atlantic: Del., Md., W.Va., Va., N.C., S.C., Ga., Fla.
East South Central: Ky., Tenn., Miss., Ala.
West South Central: Okla., Texas, Ark., La.
Mountain/Pacific: Wash., Ore., Calif., Alaska, Idaho, Nev., Mont., Wyo., Utah, Ariz., Colo., N.Mex.

need to keep costs down in the face of tougher competition from overseas suppliers. Paper companies also seem to be relatively optimistic about business prospects for 1986. Sales are expected to rise 6.6% and product prices 6.9% in 1986, McGraw-Hill reported, while costs for plant and equipment are expected to climb only 4.6%.

On the other hand, U.S. paper industry spending may not be as strong as its second-place showing makes it look. Preliminary figures for 1987 show plans to cut spending back to $7.74 billion, 9.8% less than 1986. In addition, companies have lowered their spending sights from those of McGraw-Hill's survey last spring. Plans for 1986 reported last fall are down 5.7% from the spring survey, while 1987 plans have dropped 7.2%.

Tax uncertainties. Prospects for tax code changes throw a wild card into estimates of future U.S. capital spending. There are conflicting views on what proposed changes would mean for the economy, and there is no clear picture of what form the final tax bill will take—if it passes at all.

Two likely features in any tax bill—withdrawal of the investment tax credit and tightening of depreciation rules—would have a direct impact on the spending picture, while provisions to impose a minimum tax on corporations and change the tax status of certain woodlands would also affect paper companies. The American Paper Institute and other critics have said that such changes would result in drastic cutbacks for paper industry profits, capital spending, and employment. Proponents of tax reform argue that the proposed measures would stimulate the economy and thus be of net benefit to business.

ABOUT *P&P*'s ANNUAL SURVEY. Now in its twenty-second year, P&P's annual capital spending survey covers expansion and modernization programs at U.S. and Canadian mills. Unlike surveys which track spending by year, the *P&P* survey covers spending by project. Dollar figures represent the total cost of reported projects and may sometimes include supporting equipment. The total cost of multi-year projects is assigned to the startup year and is not divided among the years of expenditure. Each survey primarily covers a three-year period, but projects with firm startup dates beyond that time frame are also included.

Complete results of P&P's *exclusive survey of North American capital spending programs for 1985-87 are available in a separate* ***Mill-by-Mill Listings*** *report. Organized by company, the listings show programs for new mills and machines, rebuilds and modernizations, environmental quality control, and other mill improvements, with specifics on equipment ordered, dates, suppliers, and prices, where available. The report is free to subscribers to* Pulp & Paper Project Report, *and it is also available separately for US$95. To order, send payment to* Pulp & Paper, *Editorial Dept., 500 Howard St., San Francisco, Calif. 94105.*

UNITED STATES

GRADE CONVERSIONS BOOST SPENDING; ENVIRONMENTAL OUTLAYS FALL AGAIN

■ U.S. pulp and paper companies report plans to spend $8.56 billion on capital projects in the 1985-87 period, an increase of 4.0% over spending plans reported last year. That total includes $1.03 billion for projects with startup dates in 1988 and beyond. Production-related expenditures total $8.19 billion, up 5.6% from $7.75 billion reported last year. Production spending now accounts for 96% of planned outlays, up from 94% reported last year and 90% in 1984.

Only $369 million is earmarked for environmental projects in the current period, down 22.9% from that reported last year. Pollution abatement spending is down 17.8% for water and 33.5% for air. Spending for solid waste disposal grew 73.1% in this year's survey, but the total still amounts to less than 1% of overall spending.

Spending by category. Paper machine modernizations account for $1.56 billion of planned spending in the current period, up 43.9% from last year, which indicates that mills are continuing to favor machine rebuilds over new capacity installations. As it has for the past several

TOP SPENDERS IN U.S.

Companies which have reported capital spending plans of $100,000,000 or more, including both production and environmental programs

	1985-87	1984-86
Champion International	$1,047,007,000	$1,118,442,000
International Paper	889,000,000*	804,000,000
Pentair Industries	725,000,000*	152,215,000*
Scott Paper	617,000,000	453,500,000
Fort Howard Paper	600,000,000	173,500,000
Bowater	500,850,000	531,130,000
Hammermill Paper	406,770,000	369,651,000
Georgia-Pacific	380,000,000	300,800,000
Consolidated Papers	311,200,000	298,950,000*
Southwest Forest Industries	300,000,000*	n.a.
Great Northern Nekoosa	231,628,000*	602,950,000
Temple-Inland	200,705,000	194,800,000
Manistique Papers	183,000,000	n.a.
Westvaco	180,000,000	310,100,000
James River	177,500,000	300,470,000*
Weyerhaeuser	164,000,000	248,000,000
Potlatch	142,041,000	186,720,000*
Mead	139,000,000	134,000,000
Union Camp	165,000,000	644,680,000
Chesapeake	123,500,000	110,000,000
Stone Container	117,750,000	n.a.

*Includes programs for completion beyond 3-year period indicated.

years, planned spending for paper machine rebuilds grew as a percentage of total spending, rising this year to over 18% of the total. That compares with 13% in last year's survey, 11% in 1984, and only 6% in 1983.

Spending for new paper machines jumped from 5% of total spending in 1984 to 10% in last year's survey, when a number of new machine projects were announced. New machines account for 10% of total planned spending in this year's survey as well (see table p. 107). Companies report plans to spend an estimated $882 million for new machines in the 1985-87 period, up 11.6% from last year's survey.

With fewer expensive chemical pulping projects planned, spending in the pulping category declined 4.0% this year, to $1.68 billion. At almost 20% of the total, however, pulping is still the largest category after miscellaneous and plant expenditures.

The biggest change in this year's spending picture is for energy and power projects, where planned spending of $1.27 billion is down 23.2% from last year. One factor may be lower prices for oil and other sources of purchased energy, which reduce the incentive to invest in cost reduction projects. Power projects also seem to be an area where mills are able to cut costs. Scott Paper Co. completed a major power plant modernization at Mobile, Ala., late last year at a cost of $267 million, well under the $300 million originally budgeted. And the budget for Potlatch Corp.'s new power boiler at Lewiston, Idaho, was reduced last fall from $159 million to $83 million.

MAJOR MODERNIZATION/ EXPANSION PROJECTS IN U.S.

(over $50,000,000 at an existing mill site)

	1985-87
Appleton Papers, Combined Locks, Wis.	$ 54,900,000
Bowater Southern, Calhoun, Tenn.	78,000,000
Bowater Carolina, Catawba, S.C.	358,500,000*
Bowater/Catawba, Catawba, S.C.	64,350,000
Champion International, Bucksport, Maine	124,582,000
Champion International, Canton, N.C.	72,000,000
Champion International, Lufkin, Texas	87,600,000
Champion International, Pasadena, Texas	58,000,000
Champion International, Pensacola, Fla.	209,800,000
Chesapeake, West Point, Va.	123,500,000*
Consolidated Papers/Biron, Wisconsin Rapids, Wis.	249,000,000*
CCA, Fernandina Beach, Fla.	50,000,000
Federal Paper Board, Augusta, Ga.	78,850,000
Fort Howard Paper, Muskogee, Okla.	100,000,000*
Georgia-Pacific, Crossett, Ark./Palatka, Fla.	100,000,000*
Georgia-Pacific, Monticello, Miss.	80,000,000
Georgia-Pacific, Zachary, La.	200,000,000*
GNN, East Millinocket, Maine	157,800,000
Gulf States Paper, Demopolis, Ala.	50,006,000
Hammermill Paper, Erie, Pa.	81,900,000
Hammermill/Thilmany, Kaukauna, Wis.	52,081,000
Hammermill Paper, Selma, Ala.	253,000,000*
International Paper, Mobile, Ala.	600,000,000
International Paper, Pine Bluff, Ark.	214,000,000
James River, Pennington, Ala.	120,000,000*
Manistique Papers, Manistique, Mich.	183,000,000
Mead, Chillicothe, Ohio	105,000,000
Pentair Industries, Niagara, Wis.	122,000,000
Pentair/Flambeau, Park Falls, Wis.	57,000,000†
Pentair/Port Huron, Port Huron, Mich.	97,000,000†
Potlatch Pulp/Paperboard, Lewiston, Idaho	99,212,000
Scott Paper, Chester, Pa.	115,000,000
Scott/S.D. Warren, Mobile, Ala.	282,000,000
Scott/S.D. Warren, Skowhegan, Maine	220,000,000*
Jefferson Smurfit, Jacksonville, Fla.	67,200,000†
Southwest Forest, Panama City, Fla.	300,000,000†
Stone Container, Florence, S.C.	100,000,000
Temple-Inland, Evadale, Texas	62,000,000
Union Camp, Franklin, Va.	131,000,000
Westvaco, Covington, Va.	180,000,000*

*Includes new paper machine.
†Includes programs for completion in 1988 and later.

U.S. GREENFIELD MILL PROJECTS

UNDER CONSTRUCTION OR STARTED UP IN 1985 — **Startup**

Champion International, Quinnesec, Mich. — **1985**
750-tpd bleached hardwood kraft market pulp

Laurel Hill Paper, Cordova, N.C. — **1985**
Renovated textile plant, 50 tpd tissue*

Temple-Inland, Ontario, Calif. — **1985**
175,000-tpy recycled linerboard*

Fort Howard Paper, Rincon, Ga. — **1987**
380-tpd recycled tissue;* three more paper machines will raise total to 1,620 tpd by 1992

ANNOUNCED WITH STARTUP DATE

Pentair, Duluth, Minn. — **1988**
235,000-tpy clay-filled SC paper*

PROPOSED (NO STARTUP DATE)

Augusta Kraft, Augusta, Ga.
Proposed 262,500-tpy kraft linerboard mill

Boise Cascade, S.C.
Reportedly building a timberland base to support a future pulp/paper complex

Carolina Forest, Bennetsville, S.C.
Proposed two-machine, 1,500-tpd TMP/newsprint mill; no recent activity

Champion International, Halifax, N.C.
Proposed bleached pulp/white paper mill; project postponed indefinitely

Champion International, Jasper, Texas
Proposed pulp/paper mill; postponed indefinitely

Georgia Kraft, Elberton, Ga.
Site purchased in 1981 for future 1,300-tpd linerboard mill

Great Lakes Forest Products, Usk, Wash.
154,000-mtpy TMP/newsprint mill*; postponed until market conditions improve

Grenada Paper, Grenada, Miss.
Proposed 200,000-tpy TMP/newsprint mill, on hold

Independent Kraft, Tuscaloosa, Ala.
Proposed 280,000-tpy kraft linerboard mill, on hold

Kimberly-Clark, southeastern U.S.
Reportedly consicering disposable diaper pulp mill; no recent activity

Undetermined, Richmond, Calif.
175,000-tpy recycled newsprint mill under study by city

*Paper machine also included in New Machine table.

Average capacity growth ahead. Capital spending won't get much of an extra boost from capacity additions over the next three years, according to the American Paper Institute's latest capacity survey. API expects paper and paperboard capacity to grow an average of 2.0% a year between now and 1988, a little below the ten-year average annual rate of 2.1% a year. Pulp capacity growth will average 1.2% a year through 1988, API reports, well below the ten-year average of 2.1%.

One factor that should tend to keep spending higher than those numbers suggest, however, is the emerging trend toward grade conversion. Instead of simply shutting down unprofitable machines, mills are spending the funds necessary to convert them to other products. API reports that at least eight large paper machines, with total capacity for 1.2 million tpy, will be converted between 1985 and 1988 to more profitable grades.

International Paper Co. has been a leader in this area, beginning with the conversion of its Georgetown, S.C., mill to white paper and market pulp in 1984. In 1985 and 1986, IP is spending $500 million to convert its Mobile, Ala., mill from newsprint and brown papers to uncoated free sheet and bleached kraft papers and its Pine Bluff, Ark., mill from newsprint to coated publication paper.

Georgia-Pacific Corp. converted two mills in 1985: a $100-million printing paper machine replaced an old unbleached kraft unit at Crossett, Ark., and the company rebuilt a "swing" unbleached kraft paper/board machine at Monticello, Miss., to produce mainly kraft linerboard. Chesapeake Corp. will convert a kraft linerboard machine to recycled corrugating medium in a $28-million project targeted for late 1986 or early 1987.

Integrating market pulp. Along with newsprint and brown paper, board, bleached kraft market pulp has become a prime candidate for conversion because of overcapacity and poor markets. G-P is integrating its Port Hudson market pulp mill at Zachary, La., with a new uncoated free-sheet machine in a $200-million project to be completed this year. Hammermill is also integrating a market pulp mill to uncoated free sheet in a $190-million project at Selma, Ala. Champion plans to install a paper machine at its new $500-million bleached kraft market pulp mill at Quinnesec, Mich., which started up late last year, although that new machine has been postponed until the company can reduce debt incurred in the acquisition of St. Regis in 1984.

NEW MILLS AND MACHINES. Two major greenfield mills were completed in 1985: Champion's 750-tpd Quinnesec mill and Temple-Inland Inc.'s $130-million, 175,000-tpy recycled linerboard mill at Ontario, Calif. Two more greenfield projects are now definitely in the works: Fort Howard Paper Co.'s recycled tissue mill at Rincon, Ga., and Pentair Inc.'s supercalendered groundwood mill at Duluth, Minn. The Fort Howard mill will come onstream in stages, with two machines with capacity for about 700 tpd planned for installation by 1988.

NEW PAPER MACHINES IN U.S.

UNDER CONSTRUCTION OR STARTED UP IN 1985 — **Startup**

Chesapeake, West Point, Va. — **1985**
900-tpd, 258-in. Voith No. 3—linerboard

Fort Howard, Muskogee, Okla. — **1985**
No. 4 tissue machine

Georgia-Pacific, Crossett, Ark. — **1985**
300-tpd No. 1 Sulzer Escher Wyss—white paper

Temple-Inland, Ontario, Calif.
175,000-tpy Tampella—recycled liner

Bowater Carolina, Catawba, S.C. — **1986**
197,000-tpy No. 2 Beloit—LWC

Consolidated/Biron Div., Wisconsin Rapids, Wis. — **1986**
660-tpd, 324-in.-trim Voith—LWC

Georgia-Pacific, Zachary, La. — **1986**
230,000-tpy, 378-in.-trim Valmet—uncoated free sheet

Hammermill, Selma, Ala. — **1986**
660-tpd, 350-in.-trim Voith—uncoated free sheet

James River, Pennington, Ala. — **1986**
70,000-tpy, 260-in.-trim Beloit—tissue

Kimberly-Clark, Whiting, Wis. — **1986**
90-tpd Sulzer Escher Wyss—cotton fiber

Scott/S.D. Warren, Skowhegan, Maine — **1986**
215,000-tpy Beloit—coated free sheet

Westvaco, Covington, La. — **1986**
175,000-tpy Voith—bleached paperboard

Fort Howard, Rincon, Ga. — **1987**
380-tpd tissue machine

ANNOUNCED, WITH STARTUP DATE

Fort Howard, Rincon, Ga. — **1988-92**
Three tissue machines (1988, 1990, 1992)

Pentair, Duluth, Minn. — **1988**
235,000-tpy, 285-in.-trim—SC paper

PROPOSED (NO STARTUP DATE)

[illegible]fin Paper, Grand Rapids, Mich.
[illegible],000-tpy, 280-in.-trim LWC, targeted for 1988

[illegible] Cascade, International Falls, Minn.
Proposed uncoated free sheet, on hold since 1982

Champion International, Quinnesec, Mich.
500-600-tpd uncoated free sheet machine, indefinitely postponed

Champion International, undetermined
LWC machine was under study; indefinitely postponed

Chesapeake/Wisconsin Tissue, Menasha, Wis.
Studying No. 4 tissue machine

Crown Zellerbach, Bogalusa, La.
New machine proposed for tissue expansion

Crown Zellerbach, South Glens Falls, N.Y.
Install 6,000-fpm tissue machine; delayed

Great Northern Nekoosa, Ashdown, Ark.
210,000-tpy No. 64 uncoated free sheet under study

International Paper, undetermined
150,000-tpy coated free sheet machine

Longview Fibre, Longview, Wash.
No. 12 lightweight kraft paper machine

Midtec Paper, Kimberly, Wis.
No. 7 coated free-sheet machine under study

Potlatch, Cloquet, Minn.
New machine could replace old uncoated free sheet capacity

Potlatch, McGehee, Ark.
Second SBS board machine under consideration

Southeast Paper Mfg., Dublin, Ga.
450-tpd recycled newsprint machine under active study

Union Camp, Eastover, S.C.
Considering second free-sheet machine

Westvaco, unspecified
New machine(s) for coated free-sheet expansion

Weyerhaeuser, Columbus, Miss.
Second LWC machine, reportedly for 1987 startup

Weyerhaeuser, Columbus, Miss.
Uncoated free-sheet machine on hold

in the $450- to $500-million first phase, and two more machines planned by 1992. The $400-million, 235,000-tpy Pentair facility is targeted for startup in 1988.

Four new paper machines started up at U.S. mills in 1985, the same number as in 1984. Besides the G-P and Temple-Inland machines mentioned above, these include Fort Howard's No. 4 tissue machine at Muskogee, Okla., and Chesapeake's 900-tpd No. 1 kraft linerboard machine at West Point, Va.

Eight machines are scheduled for startup in 1986, all but two of them in the printing and writing grades, where a large capacity buildup averaging 3.9% a year is well under way. New lightweight coated groundwood machines are under construction at Consolidated Papers Inc.'s Biron Div. mill at Wisconsin Rapids, Wis., and Bowater Carolina Corp.'s Catawba, S.C., mill. Uncoated free-sheet machines are coming onstream at G-P and Hammermill market pulp mills, as detailed above. Scott's S.D. Warren Div. is installing a second coated free-sheet machine at the Skowhegan, Maine, mill, and Kimberly-Clark Corp.'s Whiting, Wis., mill will get a new cotton fiber paper machine this year. In other grades, James River Corp. will install a new tissue machine at the Pennington, Ala., mill in 1986, while Westvaco Corp. will start up a new solid bleached paperboard unit at Covington, Va.

Proposed expansions depend on markets. There are several major projects in addition to those already scheduled that could move forward quickly if business picks up. Great Lakes Forest Products Ltd. was proceeding with a new newsprint mill in Usk, Wash., for startup in 1987, but that project was put on hold last month until market conditions improve. Another victim of the economic downturn is Blandin Paper Co., which announced a new lightweight coated paper machine for startup at its Grand Rapids, Mich., mill in 1988. That project was put on hold due to financing problems. Another LWC machine project is currently on hold at Weyerhaeuser's Columbus, Miss., mill, but observers report that this project may be reinstated early this year.

Champion International could move forward on several fronts if its divestiture strategy to reduce debt following the acquisition of St. Regis Corp. continues to go smoothly. Champion has three major project proposals on the back burner besides the paper machine on hold at Quinnesec: a lightweight coated paper machine for an unspecified St. Regis mill, a new coater for the Courtland, Ala., mill, and a new bleached pulp/white paper mill proposed for Halifax, N.C.

In the kraft linerboard sector, plans are proceeding for Augusta Kraft Co.'s proposed greenfield mill at Augusta, Ga. Also under active consideration is Independent Kraft Corp.'s proposed Tuscaloosa, Ala., mill, which is on hold pending a market upturn. In newsprint, Grenada Paper Co.'s proposed greenfield mill at Grenada, Miss., and a second machine for Southeast Paper Mfg. Co. are awaiting better market conditions.

CANADA

NO SHORTAGE OF PROJECTS, BUT MARKETS MAKE SPENDING PLANS UNCERTAIN

■ Conflicting signals lead to an uncertain outlook for capital spending in the Canadian industry. Although spending seems headed for a new record in 1985, according to Statistics Canada's most recent survey, *P&P*'s survey of three-year spending plans shows a drop from last year. Present business conditions further cloud the picture. Strong competition in Canada's export markets has increased the need to modernize equipment to lower production costs, as well as the incentives for converting machines to more profitable products. At the same time, lower prices have kept profit margins down, making it difficult to pay for modernization and conversion projects, particularly since many companies are still suffering from high debt incurred in the huge capacity buildup of the late 1970s. Thus many capital projects may have to wait for better market conditions.

Canadian pulp and paper companies report plans to spend C$4.10 billion in the 1985-87 period, down 10.2% from the $4.57 billion reported last year, *P&P*'s survey shows. Reported production-related expenditures totaled $3.87 billion in this year's survey, down 10.0% from last year's $4.30 billion, while planned environmental outlays come to $233 million, down 14.3%.

Spending by category. Fueled by a number of mechanical pulp project announcements, spending for pulping improvements jumped 18.6% in this year's survey, to $1.30 billion. Traditionally running about 35% of the total, pulping projects accounted for 32% of planned expenditures in this year's survey, up from only 24% last year. Energy expenditures rose this year after a sharp drop in last year's survey, rising 37.9% to $362 million.

Reported spending for new paper machines is down 17% this year, and outlays for machine rebuilds suffered a 21% drop. New machines account for 10% of total spending, the same as last year, while machine rebuilds slipped to 22% from 26% last year.

Capacity expansion. Paper and board capacity expansion will run slightly below average over the next three years, according to the Canadian Pulp & Paper Assn.'s most recent survey. Paper and board additions will average 1.3% a year, down slightly from the ten-year average of 1.4%, with most of the growth coming in the smaller grade segments, such as groundwood printing and specialties. But spending for expansion projects should be higher than the modest growth rate suggests, since retirement and conversion of old capacity is what is keeping growth low, not the lack of new projects.

Newsprint additions. After a lull of several years, Canada's important newsprint segment appears to be

heating up again, although capacity is expected to grow only 2.4% by 1987 because of conversions and retirements. James Maclaren Industries Inc. recently completed a $148-million expansion at Masson, Que., which included a new 196,000-metric-tpy newsprint machine. Also in Quebec, CIP Inc. announced last June that it would install a new 155,000-metric-tpy newsprint machine at Gatineau by 1987, and Donohue Inc. followed suit two months later with a $160-million, 180,000-metric-tpy new machine project at Clermont, also scheduled to start up in 1987.

Several newsprint mills have undertaken major modernization programs to upgrade existing equipment. Boise Cascade Canada is spending $219 million at Kenora, Ont., in a program concentrating on the pulp mill and woodyard. Paper machine improvements and a new TMP mill are planned in an $86-million program at Consolidated-Bathurst's Shawinigan, Que., mill, and Con-Bath will spend over $50 million upgrading newsprint machines at Port Alfred. New TMP capacity and newsprint machine improvements are also under way in a $105-million project at Kimberly-Clark of Canada's Spruce Falls mill in Kapuskasing, Ont.; a $39-million upgrade at Kruger's Bromptonville, Que., mill, and a $200-million program at Kruger's Corner Brook, Nfld., mill. Ontario Paper Co. plans to spend $138 million on improvements at the Q.N.S. mill at Baie Comeau, Que., and Reed will complete a $275-million, seven-year modernization at Quebec City, Que., this year.

In addition to these scheduled projects, newspaper publisher Quebecor Inc. has proposed a 180,000-metric-tpy newsprint mill for the Matane region of Quebec. If approved, the $250-million Quebecor project would be targeted for 1988 startup. Also under consideration is a new newsprint machine at Abitibi-Price Inc.'s Iroquois Falls, Que., mill, although the company has yet to decide the timing of that project.

Printing and writing. Quebecor's proposed newsprint mill reportedly has competition for the Matane site from a Norwegian company, Saugbrugsforeningen, which wants to build a coated paper mill in the region. Canada's hottest segment for capacity growth is printing and writing papers. Groundwood printing and specialty ca-

TOP SPENDERS IN CANADA

Companies which report capital spending plans of C$100,000,000 or more, including both production and environmental programs

	1985-87	1984-86
Domtar	C$904,451,000*	C$1,021,014,000
Kruger	328,600,000*	237,000,000
Repap Enterprises	280,000,000	223,000,000
Boise Cascade Canada	272,600,000	261,800,000
Consolidated-Bathurst	253,300,000*	203,000,000*
Abitibi-Price	249,700,000	272,150,000*
Ontario Paper Co.	237,800,000	114,891,000
CIP	165,900,000	102,000,000
Tembec	151,000,000*	174,700,000*
James Maclaren Industries	148,000,000	224,000,000
Western Pulp	145,900,000	229,200,000
E.B. Eddy Forest Products	130,383,000*	141,690,000*
Makin Pulp & Paper	115,000,000	115,000,000
James River-Marathon	104,733,000	95,000,000

*Includes programs for completion beyond 3-year period indicated

CANADA—REPORTED CAPITAL EXPENDITURES FOR 1985-87+ BY REGION AND TYPE OF FACILITY (C$000)

PRODUCTION-RELATED EXPENDITURES

	WOOD/FIBER		PULPING		NEW MACHINES		MACHINE MOD.		ENERGY		MISC./PLANT	
Maritimes	$ 34,826	31%	$ 133,884	10%	$ 50,000	13%	$118,240	13%	$120,735	33%	$126,486	16%
Quebec	11,075	10%	749,570	58%	292,000	74%	405,752	44%	153,170	42%	468,058	60%
Ontario	47,573	43%	149,427	11%	28,000	7%	373,518	41%	35,819	10%	161,001	21%
Central	—	0%	—	0%	—	0%	3,100	0%	150	0%	2,000	0%
West	17,100	15%	268,512	21%	25,000	6%	15,100	2%	52,600	15%	24,366	3%
Total	**$110,574**		**$1,301,393**		**$395,000**		**$915,710**		**$362,474**		**$781,911**	

ENVIRONMENTAL QUALITY SPENDING

	WATER		AIR		SOLID WASTE		TOTALS: PRODUCTION		ENVIRONMENTAL		GRAND TOTAL	
Maritimes	$ 20,000	17%	$ 30,343	37%	$ 3,000	8%	$ 584,171	15%	$ 53,343	2%	$ 637,514	16%
Quebec	68,870	61%	27,600	34%	8,263	22%	2,079,625	54%	105,733	45%	2,185,358	53%
Ontario	6,685	6%	3,906	5%	1,453	4%	795,338	21%	12,044	5%	807,382	20%
Central	—	0%	—	0%	—	0%	5,250	0%	150	0%	5,250	0%
West	17,819	16%	19,585	24%	24,230	66%	402,678	10%	61,634	26%	464,312	11%
Total	**$114,374**		**$ 81,434**		**$ 36,946**		**$3,867,062**		**$232,754**		**$4,099,816**	

1. Includes C$1,215,579,000 for projects for startup in 1988 and after ($1,214,421,000 production; $1,158,000 environmental)

Provinces are assigned to regions as follows: Maritimes: New Brunswick, Newfoundland, Nova Scotia. Central: Manitoba, Saskatchewan. West: British Columbia, Alberta.

pacity will jump 30.3% by 1987, while book, writing, and miscellaneous grades will climb 11.2%.

Repap Enterprises is building a 200,000-metric-tpy lightweight coated groundwood mill at Newcastle, N.B., for startup in 1986. Cost of the project is $280 million. In Quebec, Domtar Inc. is proceeding with the $754-million modernization at its Windsor mill, which includes a 175,000-metric-tpy uncoated free-sheet machine for 1987 startup and a similar unit in 1989. On the other side of the continent, Makin Pulp & Paper Ltd. plans to break ground soon on a $115-million, 200-metric-tpd coated and uncoated groundwood mill at Britannia Beach, B.C. Chief among the groundwood specialties projects is Abitibi's $110-million conversion to supercalendered groundwood at Ionquière, Que.

Pulp expanions. Pulp capacity will grow an average of 1.2% a year through 1987, according to the CPPA, which is well above the ten-year average of 0.7% a year. That trend will not boost spending as much as it would have in past years, however, since the growth is concentrated in less expensive TMP and CTMP additions. TMP capacity will grow 22.2% by 1987, according to the CPPA. Only three chemical pulping projects, all bleached kraft, made the list of major mill programs in this year's survey: James River-Marathon Ltd.'s $105-million expansion at Marathon, Ont.; Western Pulp Inc.'s $214-million modernization at Squamish, B.C.; and a new kraft pulp mill at Domtar's Windsor, Que., mill.

Tembec is scheduled to complete a new $103-million, 100,000-metric-tpy bleached market CTMP mill at Temiscaming, Que., this spring. In B.C., two new market pulp mill projects have been proposed: Fibreco Export is looking at sites in the interior of the province for a 170,000-metric-tpy CTMP mill, and Dong Bang Chemical of Korea is studying an 82,500-metric-tpy neutral sulfite anthraquinone pulp mill for Ocean Falls, B.C. ■

MAJOR MODERNIZATION/ EXPANSION PROJECTS IN CANADA

(over C$50,000,000 at an existing mill site, 1985-87)

Abitibi-Price, Jonquere, Que.	C$110,000,000
Boise Cascade Canada, Fort Frances, Ont.	53,400,000
Boise Cascade Canada, Kenora, Ont.	219,200,000
CIP, Gatineau, Que.	67,700,000*
CIP, Trois Rivieres, Que.	75,700,000
Consolidated Bathurst, Shawinigan, Que.	85,600,000†
Con-Bathurst, Ville de La Baie, Que.	51,700,000†
Domtar, Windsor, Que.	754,000,000*†
Donohue, Clermont, Que.	86,681,000*
E.B. Eddy Forest Products, Espanola, Ont.	105,480,000†
James Maclaren Industries, Masson, Que.	148,000,000*
James River-Marathon, Marathon, Ont.	104,733,000
Kimberly-Clark of Canada, Kapuskasing, Ont.	105,000,000
Kruger, Bromptonville, Que.	58,600,000
Kruger, Corner Brook, Nfld.	200,000,000†
Kruger, Trois Rivieres, Que.	70,000,000
Ontario/Q.N.S. Paper, Baie Comeau, Que.	158,400,000†
Ontario Paper, Thorold, Ont.	79,400,000†
Reed, Quebec City, Que.	68,800,000
Tembec, Temiscaming, Que.	151,100,000†
Western Pulp, Squamish, B.C.	109,000,000

*Includes new paper machine
†Includes programs for completion in 1988 and later

NEW PAPER MACHINES IN CANADA

(metric tons)

UNDER CONSTRUCTION OR STARTED UP IN 1985 — **Startup**

James Maclaren Industries, Masson, Que. — **1985**
196,000-tpy, 330-in.-trim, 4,500-fpm Beloit—newsprint

CIP, Gatineau, Que. — **1987**
155,000-tpy, 256-in.-trim No. 4 Voith—newsprint

Domtar, Trenton, Ont. — **1986**
99,000-tpy, 195-in.-trim Black Clawson—corrugating medium

Domtar, Windsor, Que. — **1987**
175,000-tpy, 330-in.-trim Beloit—uncoated free sheet

Donohue, Clermont, Que. — **1987**
180,000-tpy Valmet-Dominion—newsprint

ANNOUNCED WITH STARTUP DATE

Domtar, Windsor, Que.
Second 175,000-tpy, 330-in. machine—uncoated free sheet — **1989**

PROPOSED (NO STARTUP DATE)

Abitibi-Price, Iriquois Falls, Ont.
Proposed newsprint machine, timing not decided

Kruger, Trois Rivières, Que.
172,000-tpy No. 10 Beloit, postponed indefinitely—newsprint

Prince Albert Pulp, Prince Albert, Sask.
LWC or SC paper machine under study

St. Marys Paper, Sault Ste. Marie, Ont.
Proposed 156,000-tpy No. 5 SC groundwood machine, postponed

GREENFIELD MILLS—CANADA

(metric tons)

UNDER CONSTRUCTION — **Startup**

Repap Enterprises, Newcastle, N.B. — **1986**
200,000-tpy lightweight coated mill, with pulp supplied from nearby Nelson-Miramichi and Newcastle pulp mills*

TemPart, Temiscaming, Que. — **1986**
100,000-tpy bleached CTMP for market; turnkey installation by Sunds Defibrator

ANNOUNCED WITH STARTUP DATE

Makin Pulp & Paper, Britannia Beach, B.C. — **1986**
200-tpd CMP/groundwood mill

PROPOSED (NO STARTUP DATE)

Doman Industries, Nanaimo, B.C.
Proposed 500-tpd TMP mill, possibly to include newsprint machine, on indefinite hold

Dong Bang Chemical Co., Ocean Falls, B.C.
Studying 82,500-tpy neutral sulfite anthraquinone market pulp mill

Fibreco Export, interior British Columbia
Studying sites for 170,000-tpy bleached market CTMP mill

Quebecor, Matane, Que.
Proposed 180,000-tpy newsprint mill

Saugbrugsforeningen of Norway, Matane, Que.
Proposed coated paper mill reportedly under consideration by provincial government

*Paper machine included in New Machine table